

EXHIBIT 16



US007424304B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 7,424,304 B2**
(45) **Date of Patent:** ***Sep. 9, 2008**

(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **11/894,189**

(22) Filed: **Aug. 20, 2007**

(65) **Prior Publication Data**

US 2007/0287378 A1 Dec. 13, 2007

Related U.S. Application Data

(63) Continuation of application No. 11/542,819, filed on Oct. 4, 2006, which is a continuation of application No. 11/266,783, filed on Nov. 4, 2005, now Pat. No. 7,123,930, which is a continuation of application No. 10/661,871, filed on Sep. 12, 2003, now Pat. No. 6,975,878, which is a continuation of application No. 09/854,267, filed on May 11, 2001, now Pat. No. 6,650,903, which is a continuation of application No. 09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,398.

(51) **Int. Cl.**
H04Q 7/20 (2006.01)

(52) **U.S. Cl.** **455/517**; 455/575.5; 463/39; 463/40

(58) **Field of Classification Search** 455/66.1, 455/90.3, 575.6, 550.1, 414.1, 414.2, 517, 455/416; 463/36-42; 705/27, 37, 3; 725/9
See application file for complete search history.

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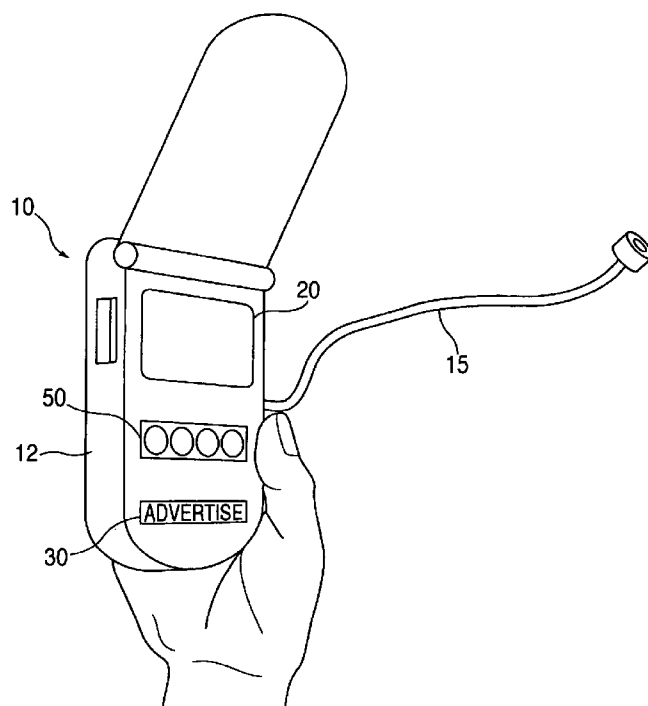
Primary Examiner—Jean A Gelin

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(57) **ABSTRACT**

The present invention relates to a method for providing interactive audience participation at live entertainment events. The method includes providing audience members with an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.

87 Claims, 2 Drawing Sheets



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Sheet 1 of 2

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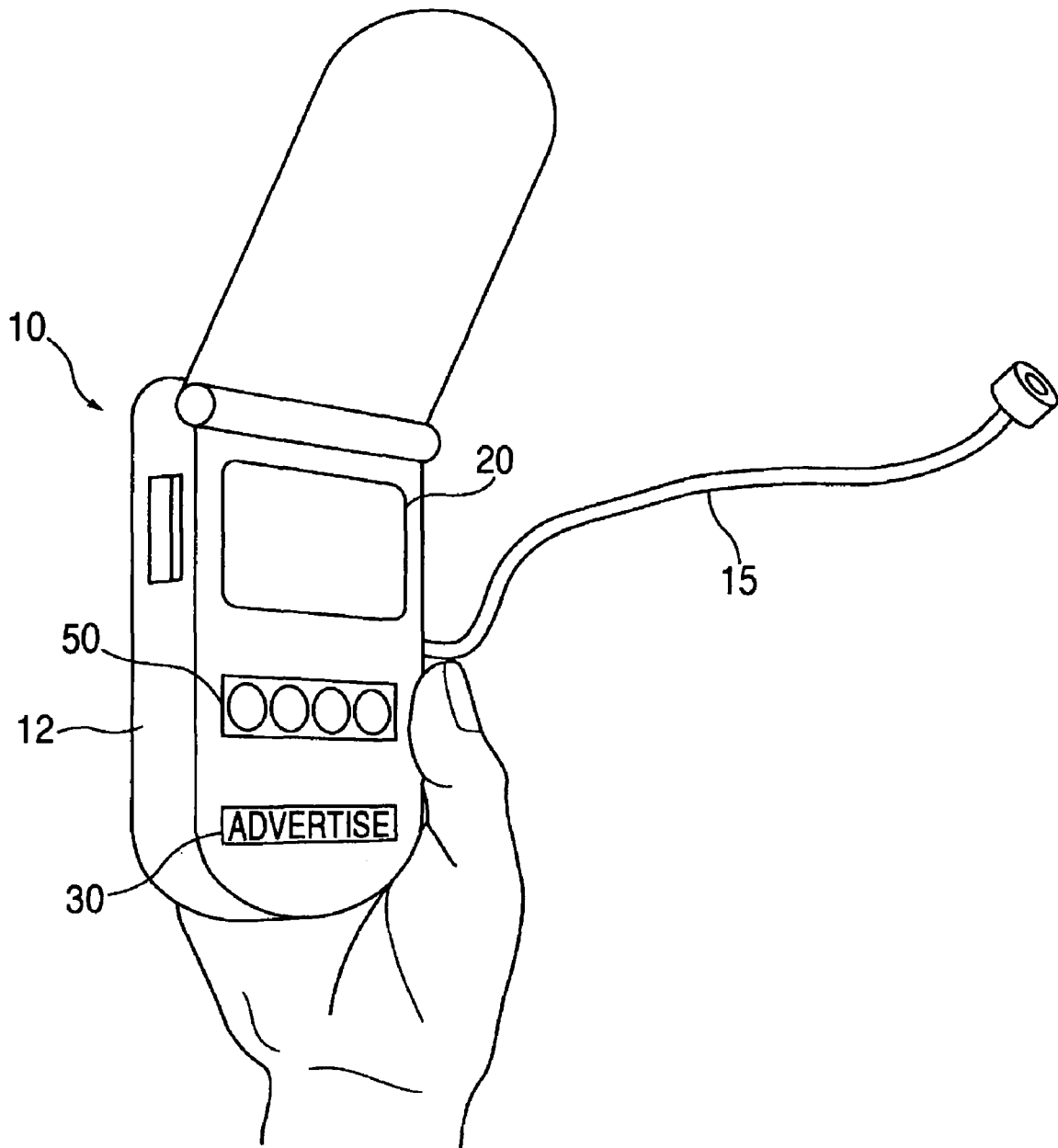
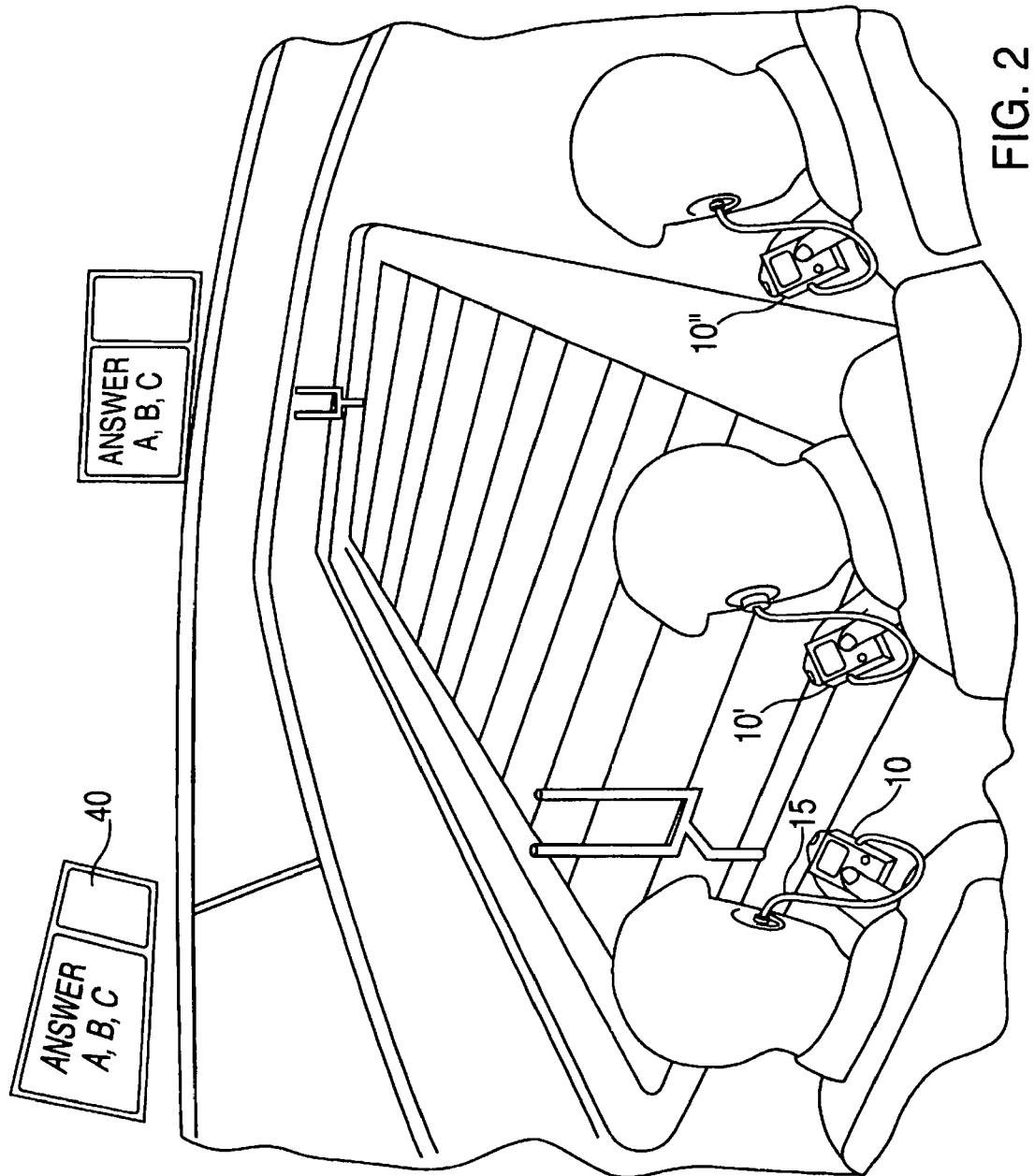


FIG. 1



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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's U.S. patent application Ser. No. 11/542,819, filed Oct. 4, 2006 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005 now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, now U.S. Pat. No. 6,975,878, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game.

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Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of prompts and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be

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delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention; and

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device 10 adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device 10 includes a housing 12 with an electronic display opening. The device 10 preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece 15 is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) 20 is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in

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electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device 10 preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia 30 located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display 20 of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display 30, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface 50 on the device 10 allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device 10 or a large screen display 40 remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device 10, 10' and 10". FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be

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completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A system for enabling interactive participation by audience members viewing a live entertainment event at a venue and employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

a wireless communication system adapted to transmit and receive messages with the interactive device;

means for querying the audience members to respond to at least one query with answers entered through the user interface and transmitted by the interactive device;

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means for receiving the answers at a central processing station or distributed processing stations;
means for storing the received answers as audience data;
and

a central processor adapted to receive and process the audience data into results;

wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

2. The system of claim 1, wherein the place is a concession stand.

3. The system of claim 1, wherein the place is a restroom.

4. The system of claim 1, wherein the place is a parking lot that services the venue.

5. The system of claim 1, wherein the place is a remote stadium.

6. The system of claim 1, wherein the place is a convention hall.

7. The system of claim 1, wherein the place is a restaurant.

8. The system of claim 1, wherein the place is a bar.

9. The system of claim 1, wherein the place is a house.

10. The system of claim 1, wherein the place is a restroom within the house.

11. The system of claim 1, wherein the place is a living room within the house.

12. The system of claim 1, wherein the place is a kitchen within the house.

13. The system of claim 1, wherein the place is a bedroom within the house.

14. The system of claim 1, further comprising means for broadcasting the results to the audience members.

15. The system of claim 1, further comprising means for disseminating least one promotional message of a sponsor to the audience members through the electronic display.

16. The system of claim 15, further comprising means for providing the results to the sponsor.

17. The system of claim 1, wherein the querying means comprises use of the interactive device.

18. The system of claim 1, wherein the querying means comprises at least one large screen display visible to audience members in the venue.

19. The system of claim 1, wherein the querying means comprises a stadium monitor system visible to audience members in the venue.

20. The system of claim 14, wherein the broadcasting means comprises at least one large screen display visible to audience members in the venue.

21. The system of claim 14, wherein the broadcasting means comprises a stadium monitor system visible to audience members in the venue.

22. The system of claim 1, further comprising at least one prize appointed to be awarded to at least one of the audience members.

23. The system of claim 1, wherein the wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, and satellite transmission.

24. The system of claim 1, further comprising means for broadcasting messages from the interactive device of one of the participating audience members to the interactive device of another of the participating audience members.

25. The system of claim 1, wherein each of the interactive devices has a unique address programmed therein.

26. The system of claim 1, further comprising means for providing audio transmission of audible programming to the

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interactive devices, the audible programming comprising at least one of play-by-play, expert commentary, traffic reports, and weather reports.

27. The system of claim 1, wherein the venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

28. A method for enabling interactive audience participation at a live entertainment event at a venue viewed by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of:

querying the participating audience members;
receiving answers to the querying entered by the participating audience members via the user interface of the interactive device;

transmitting the answers to a central processor;

processing the answers into results; and

broadcasting the results to the plurality of participating audience members viewing the live entertainment event; wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

29. The system of claim 28, wherein the place is a concession stand.

30. The system of claim 28, wherein the place is a restroom.

31. The system of claim 28, wherein the place is a parking lot that services the venue.

32. The system of claim 28, wherein the place is a remote stadium.

33. The system of claim 28, wherein the place is a convention hall.

34. The system of claim 28, wherein the place is a restaurant.

35. The system of claim 28, wherein the place is a bar.

36. The system of claim 28, wherein the place is a house.

37. The system of claim 28, wherein the place is a restroom within the house.

38. The system of claim 28, wherein the place is a living room within the house.

39. The system of claim 28, wherein the place is a kitchen within the house.

40. The system of claim 28, wherein the place is a bedroom within the house.

41. The method of claim 28, wherein the wireless interactive device employs a form of wireless communications selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

42. The method of claim 28, further comprising the step of presenting a promotional message to each participating audience member.

43. The method of claim 42, wherein the promotional message is imprinted on the device.

44. The method of claim 42, wherein the promotional message is transmitted wirelessly to the interactive device and is presented to the participating audience member either visually or aurally.

45. The method of claim 42, wherein the promotional message is pre-programmed in the interactive device.

46. The method of claim 28, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

47. The method of claim 46, wherein the awarding of prizes is accomplished by electronic delivery.

48. The method of claim 46, wherein the awarding of prizes is accomplished by direct delivery to the at least one selected audience member.

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49. The method of claim 28, wherein the interactive device is adapted to allow the broadcasting of messages from one of the participating audience members to another of the participating audience members.

50. The method of claim 28, wherein each interactive device has a unique address programmed therein.

51. The method of claim 28, wherein the answers are received at a central processing station and thereafter transmitted to the central processor.

52. The method of claim 28, wherein the answers are received at distributed processing stations and thereafter transmitted to the central processor.

53. The method of claim 28, wherein the live entertainment event is a sporting event.

54. The method of claim 28, wherein the live entertainment event is conducted at a live entertainment venue.

55. The method of claim 28, wherein the live entertainment venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

56. The method of claim 28 wherein the step of querying comprises use of a large screen display.

57. The method of claim 28 wherein the step of querying comprises use of a stadium monitor system.

58. The method of claim 28, wherein the step of querying comprises use of the interactive device.

59. The method of claim 28 wherein the step of broadcasting comprises use of a large screen display.

60. The method of claim 28 wherein the step of broadcasting comprises use of a stadium monitor system.

61. The method of claim 28, wherein the step of broadcasting comprises use of the interactive device.

62. A method for interactive audience participation at a live entertainment event viewed by audience members, a plurality of whom have a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one promotional message from a sponsor;

querying the audience members;

receiving answers to the querying entered via the user interface of the interactive device;

transmitting the answers to a processor;

processing the answers into results; and

providing the results to the sponsor;

wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

63. The system of claim 62, wherein the place is a concession stand.

64. The system of claim 62, wherein the place is a restroom.

65. The system of claim 62, wherein the place is a parking lot that services the venue.

66. The system of claim 62, wherein the place is a remote stadium.

67. The system of claim 62, wherein the place is a convention hall.

68. The system of claim 62, wherein the place is a restaurant.

69. The system of claim 62, wherein the place is a bar.

70. The system of claim 62, wherein the place is a house.

71. The system of claim 62, wherein the place is a restroom within the house.

72. The system of claim 62, wherein the place is a living room within the house.

73. The system of claim 62, wherein the place is a kitchen within the house.

74. The system of claim 62, wherein the place is a bedroom within the house.

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75. The method of claim 62, further comprising the step of broadcasting the results to the audience members viewing the live entertainment event.

76. The method of claim 62, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying. 5

77. The method of claim 62, further comprising the step of presenting a promotional message.

78. The method of claim 62 wherein the step of querying comprises use of a large screen display. 10

79. The method of claim 62, wherein the step of querying comprises use of the interactive device.

80. The method of claim 62, wherein the step of querying comprises use of a stadium monitor system.

81. The method of claim 75, wherein the step of broadcast- 15
ing the results comprises use of the large screen display.

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82. The method of claim 75, wherein the step of broadcast-
ing the results comprises use of a stadium monitor system.

83. The method of claim 75, wherein the step of broadcast-
ing the results comprises use of the interactive device.

84. The method of claim 62, wherein the live entertainment
event is a sporting event.

85. The method of claim 62, wherein the live entertainment
event is conducted at a live entertainment venue.

86. The method of claim 85, wherein the live entertainment
venue is selected from the group consisting of stadiums,
arenas, race tracks, golf courses, and theme parks.

87. The method of claim 85, wherein the live entertainment
venue is a theme park.

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EXHIBIT 17

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(12) **United States Patent**
Inselberg(10) **Patent No.:** **US 7,522,930 B2**
(45) **Date of Patent:** ***Apr. 21, 2009**(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**(76) Inventor: **Eric Inselberg**, P.O. Box 833, Short
Hills, NJ (US) 07078(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.This patent is subject to a terminal dis-
claimer.(21) Appl. No.: **11/542,819**(22) Filed: **Oct. 4, 2006**(65) **Prior Publication Data**

US 2007/0026791 A1 Feb. 1, 2007

Related U.S. Application Data(63) Continuation of application No. 11/266,783, filed on
Nov. 4, 2005, now Pat. No. 7,123,930, which is a
continuation of application No. 10/661,871, filed on
Sep. 12, 2003, now Pat. No. 6,975,878, which is a
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May 11, 2001, now Pat. No. 6,650,903, which is a
continuation of application No. 09/656,096, filed on
Sep. 6, 2000, now Pat. No. 6,434,398.(51) **Int. Cl.**
H04Q 7/20 (2006.01)(52) **U.S. Cl.** **455/517**; 455/575.6; 463/40(58) **Field of Classification Search** 455/414.2,
455/414.1, 466, 3.01-3.06, 517, 575.6; 463/36-42;
434/350, 362, 323, 322; 273/460; 705/10,
705/14, 27, 29; 725/24, 32, 74, 86
See application file for complete search history.(56) **References Cited****U.S. PATENT DOCUMENTS**

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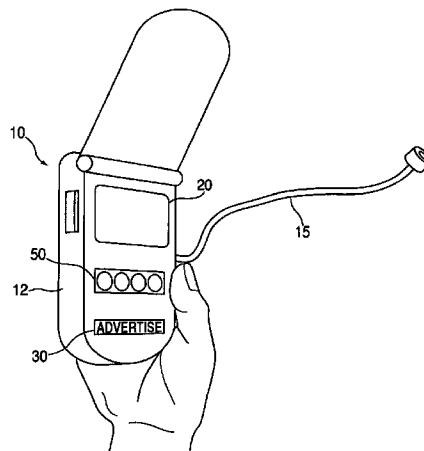
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Primary Examiner—Jean A Gelin(74) *Attorney, Agent, or Firm*—Ernest D. Buff & Associates,
LLC.; Ernest D. Buff; Aniket Patel(57) **ABSTRACT**

The present invention relates to a method for providing interactive audience participation at live entertainment events. The method includes providing audience members with an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.

42 Claims, 2 Drawing Sheets

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Sheet 1 of 2

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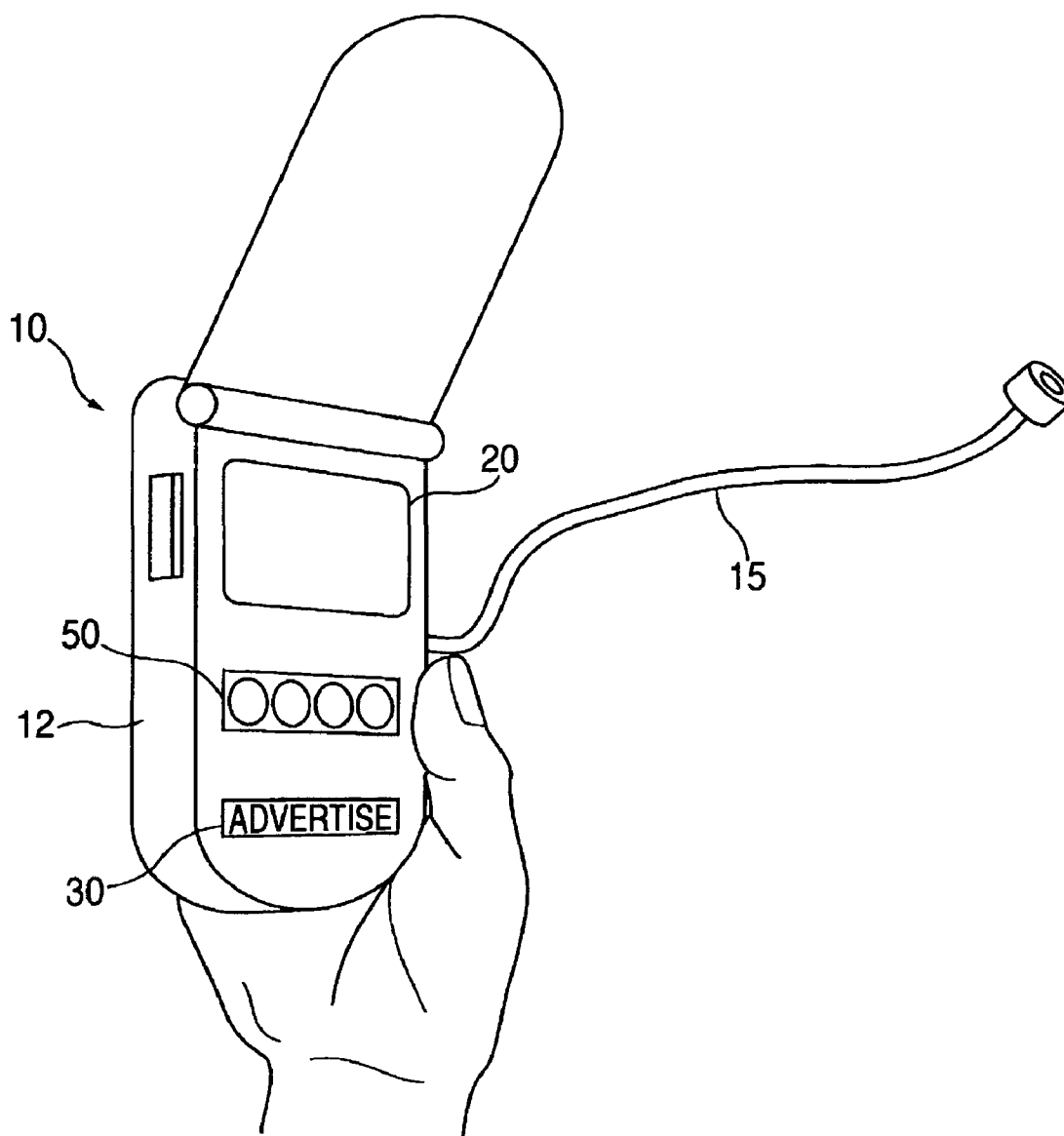
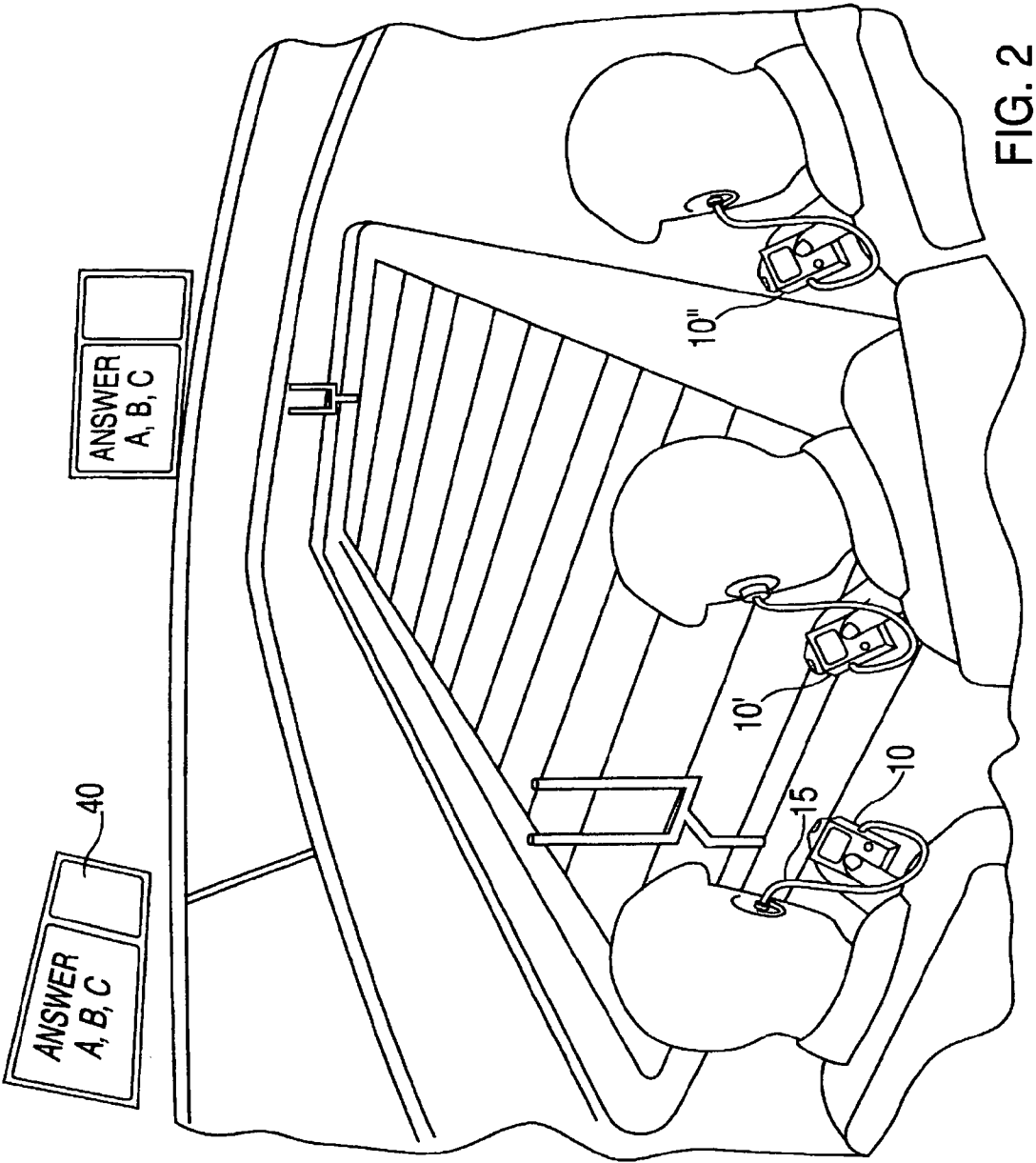


FIG. 1



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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005 now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, now U.S. Pat. No. 6,975,878, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's

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opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

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One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention.

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device **10** adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device **10** includes a housing **12** with an electronic display opening. The device **10** preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece **15** is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) **20** is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the

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transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device **10** preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia **30** located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display **20** of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display **30**, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface **50** on the device **10** allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device **10** or a large screen display **40** remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device **10**, **10'** and **10''**. FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device,

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which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A system for enabling interactive participation by audience members attending a live entertainment event at a venue and employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

a wireless communication system configured to transmit and receive messages with the interactive device;
means for querying the audience members to respond to at least one query with answers entered through the user interface and transmitted by the interactive device;
means for receiving the answers at a central processing station or distributed processing stations;

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means for storing the received answers as audience data; a central processor configured to receive and process the audience data into results and comprising means for disseminating least one promotional message of a sponsor to the audience members through the electronic display, wherein the venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

2. The system of claim 1, further comprising means for broadcasting the results to the audience members.

3. The system of claim 1, further comprising means for providing the results to the sponsor.

4. The system of claim 1, wherein the querying means comprises at least one large screen display visible to audience members in the venue.

5. The system of claim 1, wherein the querying means comprises a stadium monitor system visible to audience members in the venue.

6. The system of claim 2, wherein the broadcasting means comprises at least one large screen display visible to audience members in the venue.

7. The system of claim 2, wherein the broadcasting means comprises a stadium monitor system visible to audience members in the venue.

8. The system of claim 1, further comprising at least one prize appointed to be awarded to at least one of the audience members.

9. The system of claim 1, wherein the wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, and satellite transmission.

10. The system of claim 1, further comprising means for broadcasting messages from the interactive device of one of the participating audience members to the interactive device of another of the participating audience members.

11. The system of claim 1, wherein each of the interactive devices has a unique address programmed therein.

12. The system of claim 1, further comprising means for providing audio transmission of audible programming to the interactive devices, the audible programming comprising at least one of play-by-play, expert commentary, traffic reports, and weather reports.

13. A method for enabling interactive audience participation at a live entertainment event at a live entertainment venue attended by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of:

querying the participating audience members;
receiving answers to the querying entered by the participating audience members via the user interface of the interactive device;

transmitting the answers to a central processor;
processing the answers into results;

broadcasting the results to the plurality of participating audience members attending the live entertainment event and presenting a promotional message to each participant audience member, and wherein the venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

14. The method of claim 13, wherein the wireless interactive device employs a form of wireless communications selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

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15. The method of claim 13, wherein the promotional message is imprinted on the device.

16. The method of claim 13, wherein the promotional message is transmitted wirelessly to the interactive device and is presented to the participating audience member either visually or aurally.

17. The method of claim 13, wherein the promotional message is pre-programmed in the interactive device.

18. The method of claim 13, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

19. The method of claim 18, wherein the awarding of prizes is accomplished by electronic delivery.

20. The method of claim 18, wherein the awarding of prizes is accomplished by direct delivery to the at least one selected audience member.

21. The method of claim 13, wherein the interactive device is configured to allow the broadcasting of messages from one of the participating audience members to another of the participating audience members.

22. The method of claim 13, wherein each interactive device has a unique address programmed therein.

23. The method of claim 13, wherein the answers are received at a central processing station and thereafter transmitted to the central processor.

24. The method of claim 13, wherein the answers are received at distributed processing stations and thereafter transmitted to the central processor.

25. The method of claim 13, wherein the live entertainment event is a sporting event.

26. The method of claim 13 wherein the step of querying comprises use of a large screen display.

27. The method of claim 13 wherein the step of querying comprises use of a stadium monitor system.

28. The method of claim 13, wherein the step of querying comprises use of the interactive device.

29. The method of claim 13 wherein the step of broadcasting comprises use of a large screen display.

30. The method of claim 13 wherein the step of broadcasting comprises use of a stadium monitor system.

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31. The method of claim 13, wherein the step of broadcasting comprises use of the interactive device.

32. A method for interactive audience participation at a live entertainment event conducted at a live entertainment venue and attended by audience members, a plurality of whom have a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one promotional message from a sponsor;

querying the audience members;

receiving answers to the querying entered via the user interface of the interactive device;

transmitting the answers to a processor;

processing the answers into results;

providing the results to the sponsor and presenting a promotional message, and wherein the live entertainment venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

33. The method of claim 32, further comprising the step of broadcasting the results to the audience members attending the live entertainment event.

34. The method of claim 32, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

35. The method of claim 32 wherein the step of querying comprises use of a large screen display.

36. The method of claim 32, wherein the step of querying comprises use of the interactive device.

37. The method of claim 32, wherein the step of querying comprises use of a stadium monitor system.

38. The method of claim 33, wherein the step of broadcasting the results comprises use of the large screen display.

39. The method of claim 33, wherein the step of broadcasting the results comprises use of a stadium monitor system.

40. The method of claim 33, wherein the step of broadcasting the results comprises use of the interactive device.

41. The method of claim 32, wherein the live entertainment event is a sporting event.

42. The method of claim 32, wherein the live entertainment venue is a theme park.

* * * * *

EXHIBIT 18

US007587214B2

(12) **United States Patent**
Inselberg(10) **Patent No.:** **US 7,587,214 B2**(45) **Date of Patent:** ***Sep. 8, 2009**(54) **METHOD AND APPARATUS FOR
INTERACTIVE PARTICIPATION AT A LIVE
ENTERTAINMENT EVENT**(75) Inventor: **Eric Inselberg**, Short Hills, NJ (US)(73) Assignee: **Inselberg Interactive, LLC**, Short Hills,
NJ (US)(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.This patent is subject to a terminal dis-
claimer.(21) Appl. No.: **11/725,759**(22) Filed: **Mar. 20, 2007**(65) **Prior Publication Data**

US 2007/0197247 A1 Aug. 23, 2007

Related U.S. Application Data(63) Continuation-in-part of application No. 11/300,208,
filed on Dec. 14, 2005, now Pat. No. 7,248,888, which
is a continuation-in-part of application No. 10/792,
170, filed on Mar. 3, 2004, now Pat. No. 6,996,413,
which is a continuation-in-part of application No.
10/378,582, filed on Mar. 5, 2003, now Pat. No. 6,760,
595, which is a continuation-in-part of application No.
09/854,267, filed on May 11, 2001, now Pat. No.
6,650,903, which is a continuation of application No.
09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,
398.(51) **Int. Cl.**
H04M 7/00 (2006.01)(52) **U.S. Cl.** **455/517; 455/414.1; 455/3.06**(58) **Field of Classification Search** 455/66.1,
455/90.3, 575.6, 550.1, 414.1, 414.2, 416,
455/517; 463/36-42; 705/27, 37, 3; 725/9
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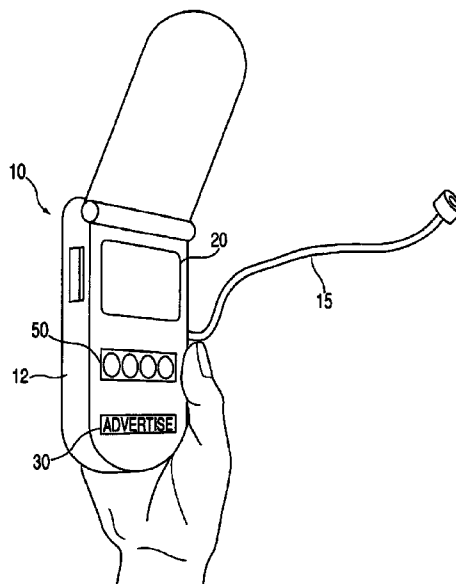
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Primary Examiner—Jean A Gelin(74) *Attorney, Agent, or Firm*—Ernest D. Buff & Associates,
LLC; Ernest D. Buff; Aniket Patel(57) **ABSTRACT**

A method and apparatus provide interactive participation at live entertainment events. Enjoyment for a plurality of participants is enhanced. Participants employ wireless interactive devices that present a promotional message and include user input and output interfaces. Participants are queried, and enter wagers via the user input interface. The wagers are transmitted to a central processor, stored as participant data, and processed into results. A visual display or the user output interface announces the results to the participants.

120 Claims, 4 Drawing Sheets

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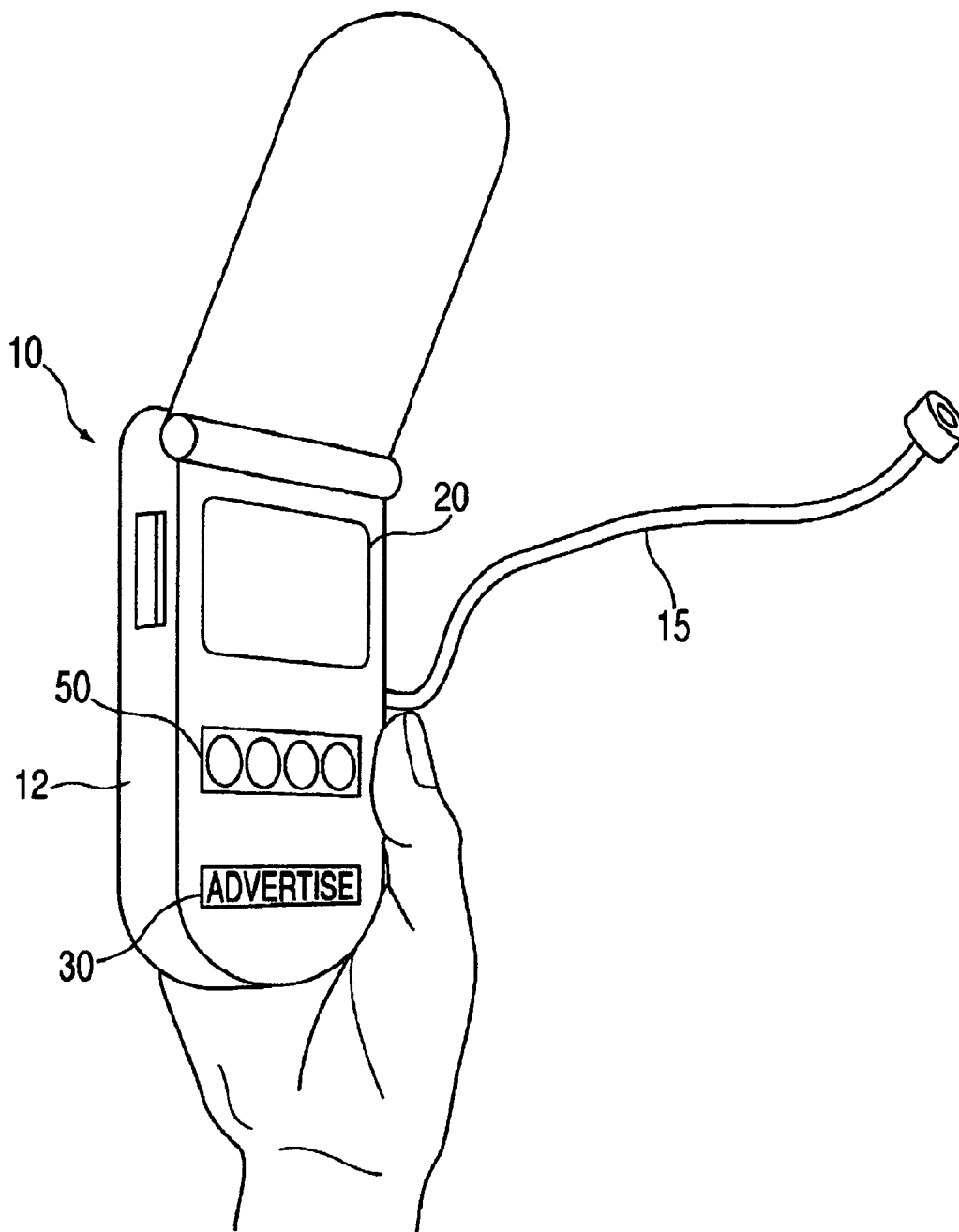


FIG. 1

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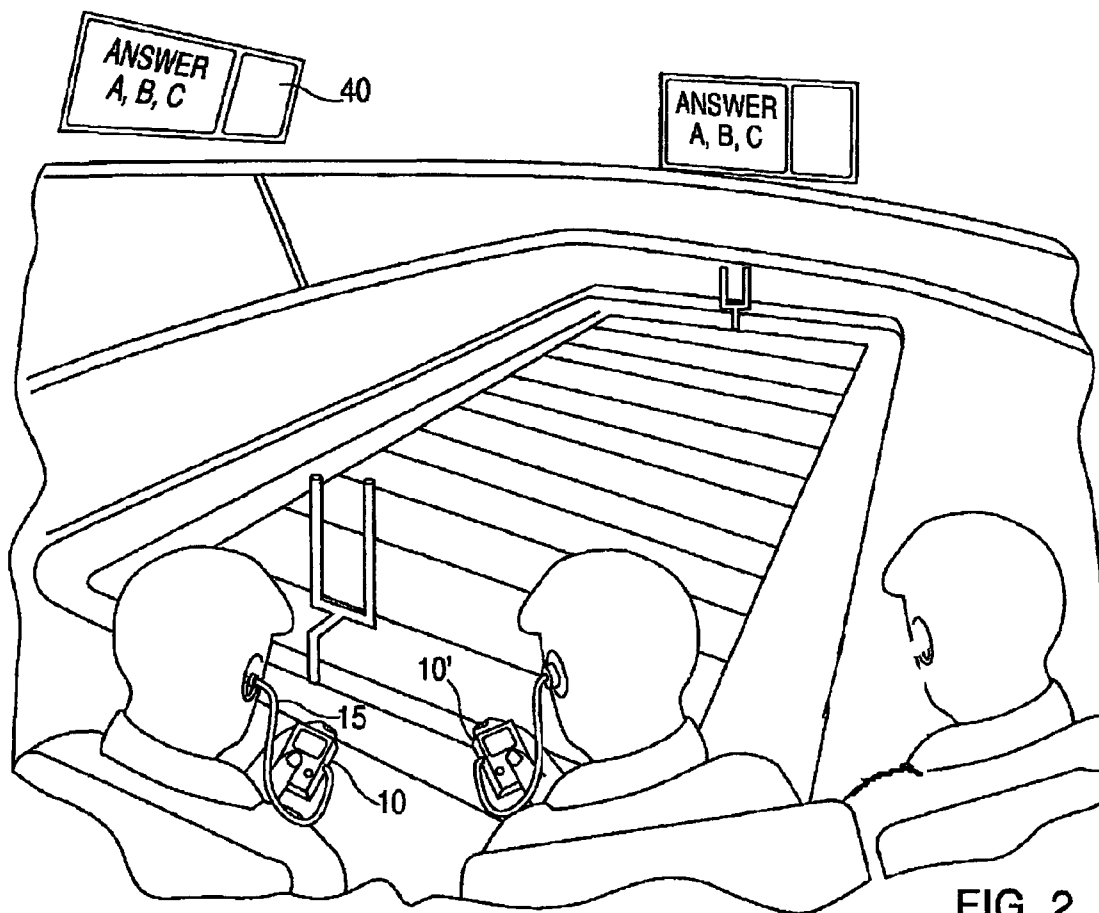


FIG. 2

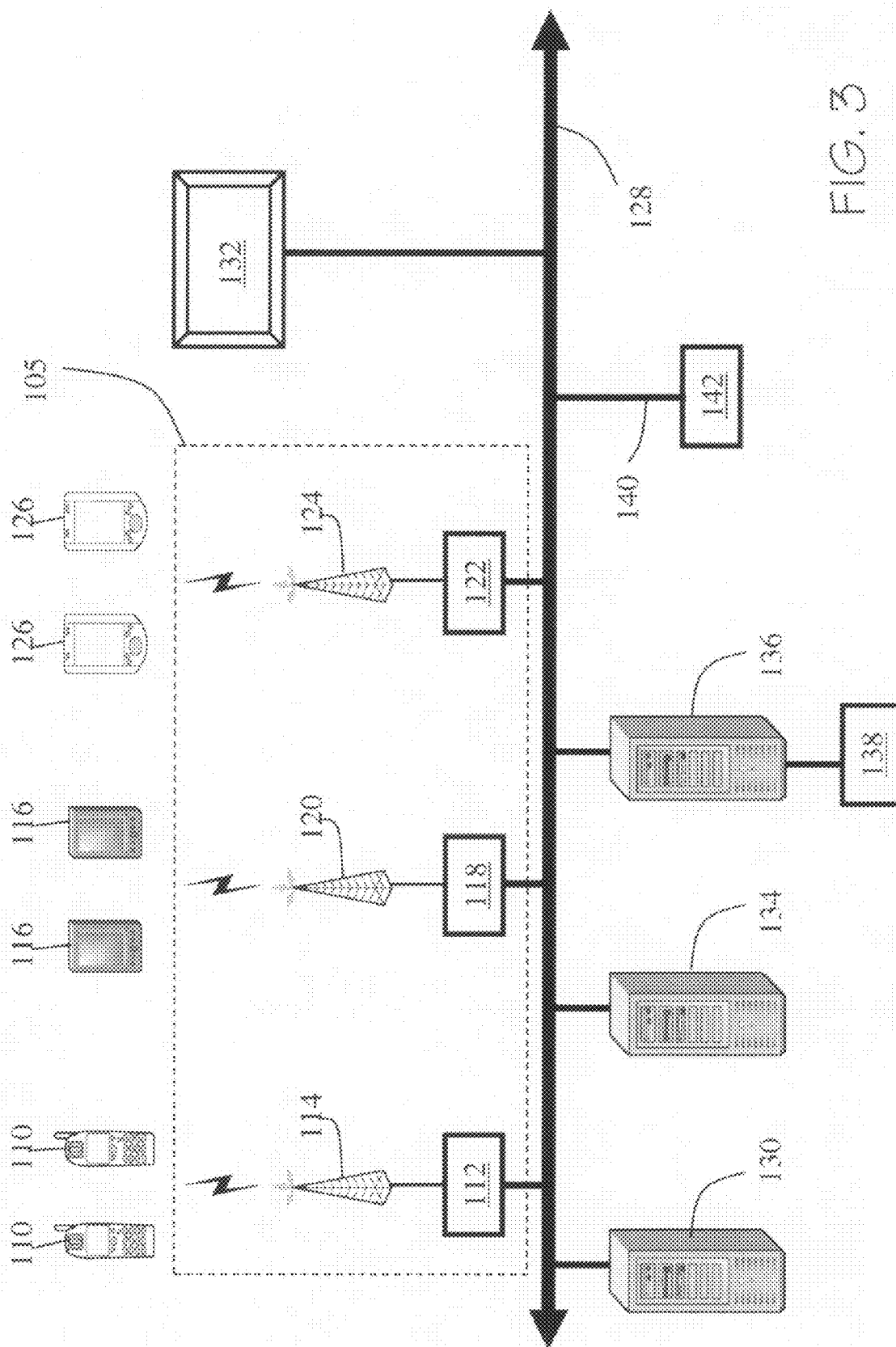
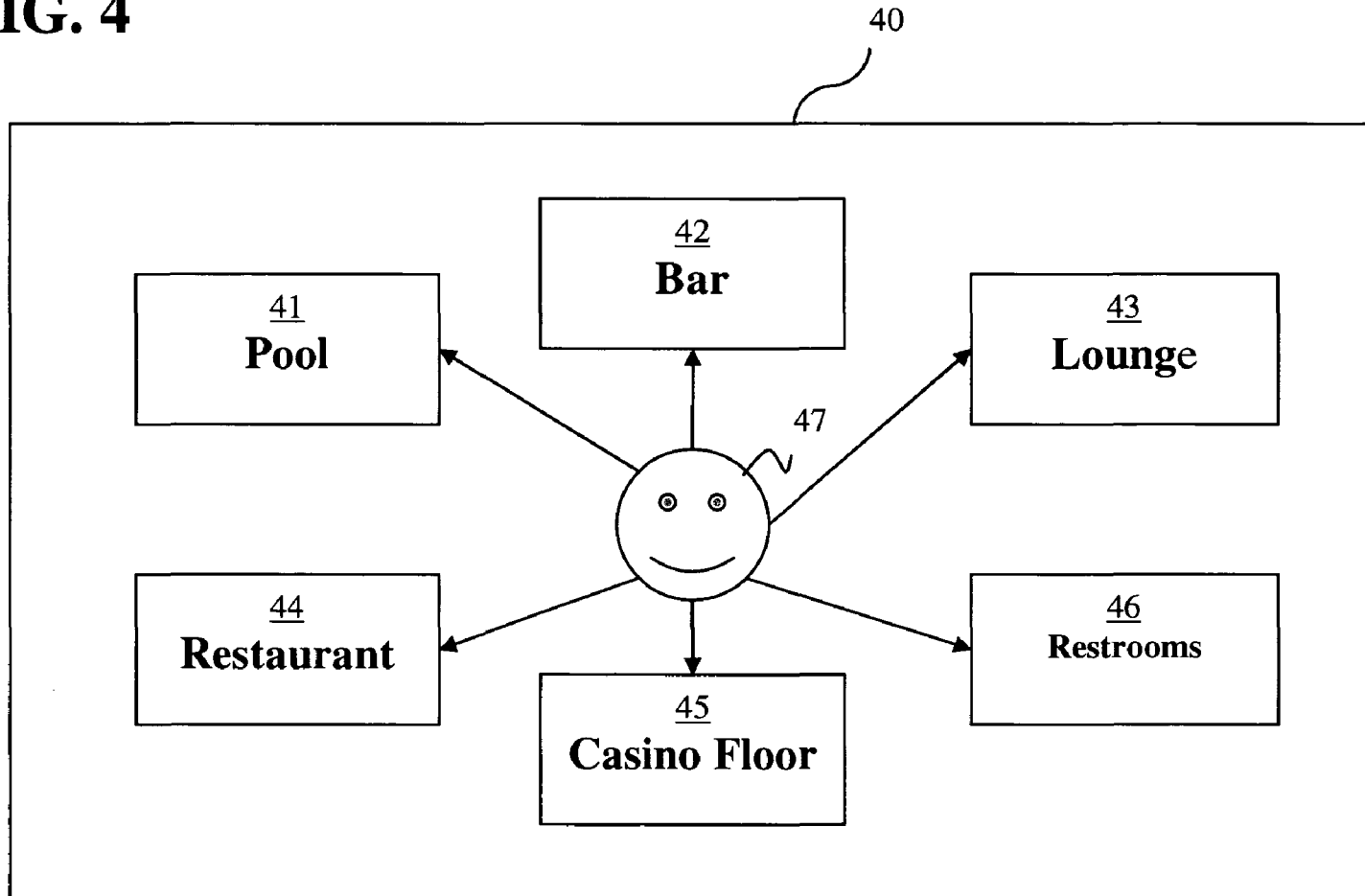


FIG. 4



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METHOD AND APPARATUS FOR INTERACTIVE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation-in-part of U.S. patent application Ser. No. 11/300,208, filed Dec. 14, 2005, now U.S. Pat. No. 7,248,888 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 10/792,170, filed Mar. 3, 2004, now U.S. Pat. No. 6,996,413, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 10/378,582, filed Mar. 5, 2003, now U.S. Pat. No. 6,760,595, issued Jul. 6, 2004, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, issued Aug. 18, 2003, which, in turn, is a continuation of U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398, issued Aug. 13, 2002. Each of application Ser. Nos. 11,300,208, 10/792,170, 10/378,582, 09/854,267, and 09/656,096 is incorporated herein in the entirety by reference thereto.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a system and method for interactive audience participation at a live entertainment event at a live event venue; and more particularly, to a system and method by which participants place wagers related to the live entertainment event in response to queries using wireless interactive devices, the wagers are processed and results are announced, thereby enhancing the participants' experience and enjoyment.

2. Description of the Prior Art

Legalized gaming events, which are typically only available at certain event venues such as casinos, horse tracks, and off track betting locations, have become a very popular form of entertainment. Some people known as "professional gamblers" have even chosen to pursue such gaming events as a source of supplemental or primary income.

Millions of people attend their favorite local gaming event venue, choosing among gaming events such as blackjack, poker, roulette, slots, horse racing, sports wagering, and many others. Besides the traditional types of sporting events, such as baseball, basketball, football, and golf, many television networks now also broadcast gaming events, such as Texas Hold 'Em Poker and Blackjack. For example, the ESPN® Network now broadcasts the World Series of Poker® tournaments. Other television networks broadcast horse racing. Rather than merely watching sporting or gaming events on television, fans and/or amateur gamblers are willing to place a wager on the outcome of the gaming event for the excitement and thrill that comes with taking a monetary risk with the potential for a reward.

Audience reaction to a live entertainment event at a live entertainment event venue is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with participants using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON®. However, the opportunities for placing a wager from a wireless interactive device in order to participate in the live entertainment event at an event venue are non-existent.

One example of a venue that would benefit from enhanced participation by wagering via a wireless interactive device is a casino. The gaming events at most casinos are typically

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available twenty-four hours a day, and participants ordinarily spend most of their time sitting in a seat and playing one of the gaming events. When going to the concession stand or restrooms, the participant misses part of the gaming event.

Further, the participant is limited by the amount of open seating at their game of choice and/or by the overall size of the event venue, especially during peak operating hours. Participants also desire the ability to participate in gaming events while roaming about the event venue. For example, the participant at a casino desires to place wagers while also sun tanning at the casino pool, waiting in line at the "all you can eat" buffet, or relaxing at the casino lounge. Participants also desire to express opinions concerning facilities, sponsors, players, management and concessions at the event venue. Being able to voice an opinion, and comparing the opinion to that of other participants, would enhance the overall experience. Also, this kind of information can be useful to event venue management by helping to determine the kind of services that participants desire.

It is also noted that participants commuting to and/or from event venues do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

Accordingly, there remains a need for a method and system that provides interaction that heightens the enjoyment experienced by participants at a live entertainment event.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of participants at live entertainment events. In a preferred embodiment of the invention, there is provided a method for enabling interactive participation at a live entertainment event at a live event venue and attended by a plurality of persons, at least a portion of whom are participants. Each participant employs a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user input interface, and (iii) output messages to a user output interface. The method comprises communicating information and queries to participants at the event to place wagers related to the entertainment event, such as blackjack or horse racing, using a wireless interactive device in conjunction with a wireless communications system. By having and using such a wireless interactive device, participants are permitted to place wagers related to the entertainment event from virtually anywhere within the event venue. Individual participant wagers are received and transferred to a central processor for storage and processing (e.g., tabulation or statistical analysis). Thereafter, the results are optionally announced to the individual participant or to the plurality of persons as a whole. The interactive device is preferably a wireless, hand held device, having user input and output interfaces. The user input interface preferably comprises at least one member selected from the group consisting of a keypad, selection buttons, a touch screen, a rotatable dial, cursor keys, a pointing device (e.g. a mouse or trackball), and a voice recognition system. The user output interface preferably comprises a visible display for alphanumeric, textual, or graphic images and audio output means such as a speaker or earphone. Preferably the device is a cellular telephone, two-way pager, or wireless personal digital assistant (PDA) or pocket PC. It is further preferred that the device be Internet enabled, and that the wireless communication system employ the Internet in the bidirectional communication of data. Alternatively, the interactive device may be a special-purpose device incorporating at least the features needed for the practice of the present method. Communication protocols other

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than the Internet may alternatively be employed to provide the desired interactive communication.

The device is easily transported, permitting the participant to carry it to other locations in the event venue, e.g. on trips to the concession stands or to the restrooms. If the event venue is a casino, the participant can use the device while sun tanning at the casino pool, while sitting at the casino lounge, and the like. Further, the method presents audio or video promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via any available communication modality.

In an aspect of the invention, gaming events may be conducted wherein a participant is asked to place a wager related to the gaming event. Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the participant selects from a list of promptings and/or possible wagers. Preferably, a gaming account is established for each participant. Credits in the form of real money or play money are then added to the gaming account of the winning participants; and credits are subtracted from the gaming account of the losing participants. Prizes may also be offered. The degree of attention and receptivity accorded to promotional messages and advertisements received by patrons using an interactive device at a live entertainment event in accordance with the present method is beneficially increased. The combination of the atmosphere of the live venue with the interactive content; and the stimulus of active participation and interaction with other participants at the venue frequently heightens the degree of interest of participants at a live event for proffered advertisements over that accorded by those who passively view or hear broadcast coverage at home or another remote location. The spontaneity and excitement engendered at the actual event enhance the likelihood that a participant will perceive advertised items favorably. A participant at the live event is also more likely to respond positively by purchasing food and beverage items, souvenirs, promotional merchandise, and the like.

In a further aspect the method makes it possible to receive instantaneous and correlated feedback from a large number of motivated patrons. Their comments, directed both to advertised products and services and to the entertainment itself, are valuable information for sponsors, event venue management, and providers of goods and services, for example.

In yet another aspect of the invention, event-related audio or video content are optionally transmitted wirelessly to the interactive device during the live event for output to the user. The transmitted content optionally includes other desirable informational items such as news, traffic, weather conditions and forecasts, news and scores of sporting events. The availability of such material increases participants' enjoyment and the perceived value of attending the event venue. The method and system of the invention are advantageously practiced at a live entertainment event, by which is meant an organized event wherein a large number of patrons are gathered to witness and enjoy in real time any form of entertainment, including an event such as a gaming event such as blackjack, roulette, or poker, or an athletic performance such as football, basketball, or baseball. Ordinarily, such live events are scheduled and organized and may involve programmatic content or entertainment, e.g. comprising an athletic contest, concert, speaker, performer, exhibition, or the like. In many instances, the programmatic content has a defined duration, such as an athletic contest or concert that has an identifiable beginning and end. In other instances, the live event comprises a plurality of constituent parts, such as a tennis tournament, in which plural matches are played during the course of a day's activ-

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ity. Matches in such a tournament may be played on a single court, or concurrently on plural courts in some venues. Further, if the event is a gaming event, it usually takes place at casinos and the event typically available twenty four hours a day. When attending a casino, interested participants must enroll in their game of choice in order to participate in the gaming event and place wagers related thereto.

In another embodiment of the present invention, a method for enabling interactive participation at a live gaming event at a live gaming event venue and attended by a plurality of persons at said venue is disclosed, at least a portion of said persons being participants employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user input interface, and (iii) output messages to a user output interface. The method comprises the following steps. A wireless communication system is provided for transmitting and receiving messages with the interactive device. A plurality of the persons is enrolled as said participants. A gaming account is established for each of the participants, wherein the gaming account has an initial gaming account value. The participants are queried to place a wager related to the live gaming event with the wager being entered by the participants through the user input interface and transmitted by the interactive device. The wagers entered by said participants are received and transferred to a central processor. The outcome of the live gaming event is displayed to the participants on the interactive device. According to the outcome of the live gaming event, the wagers are processed into results using the central processor and credits are awarded to the gaming accounts of the winning participants.

Events frequently, but not always, require the payment of an entry fee by an attendee. Live entertainment events in most cases are open to any member of the public who purchases the requisite ticket or otherwise pays the entry fee, or in the case of gaming events, meets the age requirements and enrolls in the gaming event of choice. Alternatively, participation may be restricted to persons invited by organizers of the event.

Such live entertainment events may be conducted at permanent facilities, such as indoor and outdoor stadiums and arenas for sporting events and other public gatherings; amphitheaters; auditoriums; concert halls and theaters; race tracks for animals or vehicles; off track betting locations; theme parks; convention centers; casinos; exhibition halls; shopping centers; museums; or other similar venues associated with organized gatherings of large numbers of people. Live entertainment events can also be held at facilities that are temporary and not ordinarily appointed for large gatherings, such as golf courses or temporary urban road racing courses. It is contemplated that the present method may be carried out at events of the aforementioned or similar types.

Often the location of the live entertainment event is a building with defined entrances or an indoor or outdoor area demarcated by fences or other barriers with defined points of entry that may comprise gates, turnstiles, or the like. Many live events take place in a stadium, arena, or auditorium having defined participant seating locations, e.g. seats uniquely denoted by section, row, and seat numbers or the like. In casinos, the various types of gaming events have designated sections on the casino floor with limited seating for interested participants; spectators are permitted to view the gaming events at most casinos by standing or sitting behind the participants. In addition to the actual performance area (such as a playing field or concert stage) and the appointed spectator area, event facilities ordinarily have auxiliary or appurtenant public areas associated therewith. Such areas provide facilities and services that are desirably or essentially associated with the live entertainment event. The

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auxiliary areas are generally adjacent or in close proximity, and may include non-exclusively: ticket windows; passage-ways; rest rooms; clubs; restaurants; concession stands selling food and beverages; lounges; overflow areas with audio and/or video links to the principal event area; shops selling souvenirs, promotional merchandise, novelties, or related items; and service facilities such as parking lots and stations for public transportation; and the like. For example, patrons at an athletic event frequently engage in social activity in a venue's parking lot before or after the event, often including the consumption of food and beverage, a practice commonly known as "tailgating." Such activity bears a clear thematic relationship to the athletic event itself, since there is ordinarily extensive conversation about the event, the competing teams or players, or the like. Similar activity is common in connection with concerts and other live spectator events as well. Gaming events at casinos involve live events such as blackjack, poker, and roulette, wherein the live gaming events are held in the section of the casino referred to as the casino floor. Most casinos further include bars, clubs, restaurants, outdoor/indoor pools, lounges, restrooms, lobbies, theaters, shops, and the like. All of these and related activities that are within the penumbra of the programmatic content of the live entertainment event and occurring in the environs of the corresponding live event venue are to be understood as falling within the bounds of the live entertainment event. Therefore, it will be understood that the term "live event venue" as used herein and in the subjoined claims, refers collectively to the primary performance area at which the live event is conducted, the appointed spectator area, and auxiliary areas associated with the location, including areas such as those enumerated above.

Also contemplated within the scope of the invention is interactive participation during other forms of live entertainment.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of a hand held device used in connection with the interactive audience participation system of the present invention;

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention;

FIG. 3 is a schematic diagram of a system of the invention for enhancing spectator enjoyment and interaction; and

FIG. 4 is a schematic diagram of a participant at an entertainment event venue utilizing the interactive participation system of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIG. 1, there is shown one form of a hand held, interactive device 10 adapted for use in connection with the interactive participation system of the present invention.

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In one embodiment, device 10 is employed by participants at a live event as shown in FIGS. 2 and 4. The device is adapted to communicate bi-directionally with a wireless communications system operative at a live entertainment event, to provide information to a user, and to accept entry of information through a user input interface for transmission to the wireless communications system. In a preferred embodiment the device 10 includes a housing 12 with an electronic display opening. An electronic display (visual display) 20 providing one form of user output interface is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display may be of many types, e.g. employing liquid crystal or electroluminescent displays. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a wireless communications system connected to a central processor (not shown) in a manner known in the art. The electronic display is adapted to output information received from the local microprocessor, such as graphic or textual messages that ask the participant to place a wager, answer a question, provide an opinion, or convey other important information. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display. The visual display may be limited to presenting alphanumeric messages, but more preferably is capable of displaying graphical, pictorial, or streaming video input at various scan rates, preferably in real time. Keypad 50 accepts user input for transmission to the central processor.

In another aspect of the invention, the interactive device is optionally used by participants to receive audible or video programming, which may be transmitted in the commercial AM or FM broadcast band or at any of a number of predetermined frequencies in the RF, VHF, UHF, or microwave frequency bands. The transmission may be analog or digital. Programming may also be transmitted optically, such as by modulation of an infrared emitting source located in the venue and received by a complementary photoreceptive element in the wireless interactive device and suitably processed for intelligible output. Optionally, the device also comprises means for receiving and displaying video signals such as from ordinary broadcast television stations. Transmission of such program content may be done via conventional commercial broadcast stations or with low power transmitters intended only to cover the immediate live event venue. Transmitters are optionally located either within the venue, in its environs, or in any other location that permits a sufficiently intense signal to be present in the venue. In a preferred embodiment device 10 incorporates circuitry to receive the aforementioned audio or video program content. The circuitry is adapted to receive the content and present it to the user. An earpiece 15 is preferably included to allow the user to listen to the audio content associated with the device without annoying neighboring participants. It is noted that other listening means could be employed such as earphones, speakers, or the like.

In other embodiments the aforesaid audio or video programming may be transmitted via any computer network to which the interactive device is connected, such as by streaming audio or video transmitted via the Internet, in accordance with presently employed protocols or other suitable protocols.

Such audio or video programming preferably comprises information or program content that is thematically related to the live entertainment event or event venue or that provides content useful to the participants at the event. The content

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may include descriptions of the action at the event, instructions for enrolling as a participant, instructions for wagering, odds paid out, and, in the case of sports wagering, related expert commentary, or instant replays of the sporting event. The content optionally includes other information of interest to participants, such as news and traffic reports and weather conditions and forecasts desired by the patrons. Furthermore, the audio or video programming may include dissemination of questions or other matter incident to contests and polls conducted in accordance with the invention.

It is contemplated that special purpose devices such as the aforementioned interactive device 10 optionally be made available to those patrons who do not carry a conventional wireless device such as a cellular telephone, two-way pager, personal PC, or PDA. Units possessing the required wireless communications capability, electronic display, and user input and output interfaces are easily assembled using off the shelf components, such as transceivers, displays, keypads, and microprocessors, and other miscellaneous electronic components. These special devices would preferably be prepared for each event at one or more locations, having battery charging and menu programming capability, and transported to kiosks or otherwise made available near patron entry points in the venue. The kiosks would each be either sales locations or rental contract stations to secure deposit and payment terms (cash, credit/debit card, etc.), for furnishing the special devices to patrons prior to start of the event, and collection of rented special devices after conclusion of the individual's participation. Optionally, such a device is provided to at least selected participants as part of the price of admission or, alternatively, as an optional item rented or purchased by the participant, and preferably subsidized by the promotional messages.

In another aspect of the invention, wireless devices such as those routinely possessed and used by members of the public, are used for the aforementioned interactive communication. Preferably the wireless devices are selected from the group consisting of wireless personal digital assistants (PDA) and Pocket PC's; two-way pagers; and cellular telephones. Such devices normally incorporate input means such as keypads, selection buttons, and touch screens, and video and audio output means such as display screens, speakers, and earphones. The devices typically include circuitry, such as a local microprocessor, adapted to convert wireless input into forms presented by the output means and to accept user-entered input that is converted for wireless output in a manner known in the art. Many of these devices are also Internet-enabled, that is to say, able to send and receive textual or graphic data in protocols which are commonly associated with Internet technology and able to be processed suitably by routers, servers, and other ancillary equipment used in Internet communication. Additionally, such devices frequently have the capability of sending and receiving electronic mail and Internet-based instant messages which may be transmitted worldwide over the Internet. Suitable PDA's include wireless units sold under the PALM™ tradename by Palm Computing and under the BLACKBERRY™ tradename by Research in Motion. Wireless Pocket PC's sold, e.g. by Hewlett Packard, Compaq, and Dell are also suitable.

Known user-supplied wireless interactive devices are ordinarily equipped with either software or hardware features that provide a unique signature or identification of each device, e.g. the telephone number of a cellular telephone or the IP address of an Internet enabled device. The aforementioned special-purpose devices are also provided with unique identification. Both the special-purpose devices and the user-supplied general-purpose devices are adapted to transmit the

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unique signature for identification purposes. The present method preferably employs at least one unique signature of each wireless interactive device, whereby a given participant's entries, wagers, and responses may be individually attributed and tracked and the various interactive features described herein may be individually or collectively implemented. In addition, there is generally an electronic account associated with each user-supplied device for charges and credits. In a preferred embodiment, there is a specific gaming account for each participant. The gaming account is preferably established by the event venue management. In accordance with the participant wagers and the outcome of the entertainment event, credits in the form of real or play money may be added or subtracted from the participant's account value. In some of the embodiments of the present invention, charges are levied for goods and services provided and transferred to the account associated with each device. Likewise, monetary credits, coupons, and the like can be disseminated either electronically to the account or by mail to an address associated with the account. In addition, it is preferred that information establishing each participant's location within the live event venue also be associated with that user's device. The association can be effected in many ways. Preferably, a given user is provided with one or more identifying indicia that can be entered using the user input interface of the device and included in the unique signature transmitted by the device. For example, patrons may be provided with indicia distributed beforehand or upon request entered through the wireless device, e.g. through wireless connectivity to the Internet. Indicia may be provided by regular mail, e-mail, telephone text messaging, by connecting with an appointed Internet site, or any other suitable means. More preferably, each entrant receives a ticket that bears unique identifying indicia and an attendee desiring to be a participant enters the indicia using the user input interface of his/her wireless interactive device. In an even more preferred embodiment, suitable for venues in which each patron has an appointed seat location, each entry ticket bears seat location information denoted in ordinary ways, such as by section, row, and seat numbers, and optionally, additional and unique predetermined confirmatory indicia, both of which are entered through the user input interface of the wireless device. The unique signature of each wireless interactive device contains coding corresponding to the seat location and/or the indicia. The entry of both codes provides an improved security feature, since unique signatures corresponding to entries with seat and confirmatory codes which do not match may be excluded as being invalid or possibly fraudulent. The foregoing features by which users are individually identifiable also permit the various services offered selectively to qualified, appropriate, or interested patrons or groups of patrons. Some wireless interactive devices further incorporate localization circuitry, such as Global Positioning System capability, whereby the device can ascertain and electronically transmit its physical location to location receiving circuitry, e.g. as furnished by a wireless service provider.

As there are many suitable alternatives on which to base an embodiment of the current invention which are known to those skilled in the art, the specific interactive device and wireless communications technology used, the specific multiple access communication protocol used, and the specific client/server hardware interface and protocol are not important to the method of the invention so long as they support the required functions. What is important is the method of this invention by which the event venue customer is provided better service.

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A number of currently used communications protocols suitably provide connectivity between several of the aforementioned user devices and a wireless communications system. One presently preferred protocol is provided by the commercial cellular telephone network. Many wireless or cellular telephones currently operative with these networks incorporate provisions for sending and receiving textual messages and graphic images, and for exchanging electronic mail through the Internet. Improved capabilities for wirelessly transmitting streaming video at various scan rates are rapidly being developed and are useful in the practice of the present method. Current cellular telephone systems provide various forms of instant messaging capability also useful in transmitting and receiving the queries, advertisements, and the like used in the present method. Messaging in accordance with the Short Message Service (SMS) protocol is presently preferred, but other forms of messaging are also contemplated within the present invention.

The bilateral wireless communications used in the practice of the present method and system are preferably implemented using at least one transmission form selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions. Ultra-wide band and spread-spectrum transmission are especially promising technologies for the broadcasting of messages and transmission of participants' responses. The multiplexing and frequency shifting inherently available in such technologies improve immunity to noise and interference and the security of data in transmission. For example, suitable techniques which may be used in the implementation of the present system are practiced in connection with cellular telephone systems, including such currently preferred methods as frequency division multiple access (FDMA), time division multiple access (TDMA), code division multiple access (CDMA), and global system for mobile communications (GSM) protocols, as well as other protocols including those defined by the International Telecommunications Union. Especially preferred are implementations of the present method compliant with interoperability standards promulgated by the Open Mobile Alliance and made available at the website www.openmobile.com and by the WAP Forum at the website www.wapforum.com. It is also preferred that access to the interactive features of the present invention be provided to customers of more than one provider of wireless services, including providers of cellular telephone service or of wireless access for PDAs and Pocket PCs. In some embodiments, such access for participants employing wireless interactive devices served by a plurality of providers is provided by a wireless communications system wherein network connection of plural providers permits needed exchange of information, e.g. via the Internet. In other embodiments, the wireless communication system comprises one or more authorized providers of wireless service. Participants employing wireless interactive devices served by another wireless service provider are furnished an access code, such as a telephone number and optionally further codes, or the like, permitting them to connect to one of said authorized providers, whereby they are enabled to participate in the present method, being afforded access to the various features described herein.

Another preferred communications protocol is specified by IEEE Standard No. 802.11, published by the Institute of Electrical and Electronics Engineers, and incorporated herein in the entirety by reference thereto. Standards in the IEEE 802.11 class (which are also known commonly as "Wi-Fi") specify a local area network system for wirelessly connecting individual devices such as PDA's and Pocket PC's to a local

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server through which the devices may communicate wirelessly, e.g. through a local intranet or the global Internet. Other wireless protocols that may be used to establish connectivity are also known, such as the Bluetooth Standard, published by the Bluetooth SIG and available through the website www.bluetooth.com, and incorporated herein in the entirety by reference thereto.

It will be understood by one skilled in the relevant art that different transmission modes and frequencies may be used by the wireless communications system for the transmissions to and from the wireless interactive device and that multiple transmission modes and frequencies may be used to accommodate interactive devices of different types simultaneously operated in the present system.

One representative embodiment of the present invention provides a method of enabling interactive participation by a plurality of participants at a live event employing a wireless interactive device. The interactive participation enhances the enjoyment of such participants at a live event transpiring at any form of entertainment venue.

The number of attendees constituting the plurality of participants can vary depending on factors such as the size and nature of the live event, the prevalence of user-supplied wireless interactive devices, the availability of devices for sale or rent on-location, and the characteristics of the venue. At events with a very large number of attendees, e.g. the 50,000 to 100,000 or more fans that attend many major collegiate and professional sports games, a very small fraction of the participants suffices to provide statistically significant information characteristic of the entire crowd if the individuals are representative of the whole. For example, public opinion polls often rely on a sample as small as 500-1000 respondents to infer the views of the entire population of the United States. For purposes of gaming events, one participant is all that is needed for certain types of games such as slots or blackjack. Accordingly, the term "plurality of participants" as used herein, means a number of participants varying from about 1 to as many as 100,000 or more. Preferably the number of participants is at least about 1 percent of those persons present at the live event venue. Most preferably, the plurality of participants ranges from about 25 percent to substantially all the attendees present at the live event venue. In some embodiments, the opportunity for attendees to participate in activities contemplated herein is extended to all those in attendance at the live entertainment event venue that either provide a suitable wireless interactive device or purchase, rent, or are furnished a device at the event.

In a further embodiment, the method and system of the present invention are advantageously practiced in connection with live events that entail simultaneously-occurring but thematically-related activities in different, sometimes non-contiguous locations within an overall event venue, such as golf and tennis tournaments, various casino games, Olympic game events, off-track betting locations, and the like. For example, a golf tournament ordinarily comprises staged play, wherein the competing golfers begin play at individually appointed times over an extended period, so that play is occurring simultaneously at each hole through most of the duration of the event. Important tennis tournaments such as the U.S. Open or Wimbledon are ordinarily played in a venue comprising plural courts on which matches occur simultaneously. During the Winter and Summer Olympics, competition occurs simultaneously in many sports, sometimes in widely scattered and sometimes non-contiguous locations. Similarly, off-track betting parlors, although linked to live activity at a specific horse racing track represent non-contiguous satellite locations at which participants congregate to

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place wages on horse racing events. Opportunities may likewise exist for sports fans at satellite locations that are not immediately contiguous with a particular sports arena to witness via live broadcasts and speculate on the outcome of a particular sporting event by placing wagers with a teller or via a wireless interface. Regarding gaming events, most all event venues have a plethora of various gaming events simultaneously occurring, such as blackjack, roulette, poker and slots. Further most casinos have areas that traditionally do not offer gaming opportunities, such as the pool, bar, restaurant, lounge, restroom, and the like. In such instances, it will be understood that the live event venue may comprise such non-contiguous locations. In each of these situations, the interactivity afforded by the present method provides a marked enhancement of the participant experience. The wireless interactive device of the invention allows participants present at a location in which one of the activities is occurring to remain apprised of the progress of other activities, even those occurring in disparate locations. Further, a participant may place wagers related to one or more live entertainment events from the convenience of a wireless interactive device that does not require the participant to be physically located at a specific location. In a preferred embodiment, the participant must be physically located within the perimeter of the event venue itself, i.e. within the property of the casino or other event venue. In another embodiment, participation in the entertainment event may require the participant to be physically located within certain designated areas of the event venue. For example, the event venue management may restrict use of the interactive device of the present method and system in order to restrict its usage within certain locations such as certain upscale restaurants and bars located within the event venue. Further restrictions may include the hotel rooms of the event venue, if any.

In yet other embodiments, the present method is also used in connection with live entertainment that is not associated with specific and defined programmatic content having an identifiable duration, such as that associated with an athletic event, a musical or theatrical performance, or the like. For example, the entertainment may be provided inherently to individuals as a consequence of patronizing a museum, casino, shopping mall, theme park, agricultural fair or similar exposition, a trade show, convention, or the like. Such situations may or may not include specific programmatic content having a generally defined duration. In some instances, the totality of entertainment activities has a duration bounded by opening and closing hours of a museum, mall, park, fairgrounds, convention hall, or the like. On the other hand, casinos often operate around the clock. Several games that are typically offered by casinos around the clock include blackjack, roulette, video poker, slots, poker, craps, bingo, Texas Hold 'Em poker, Caribbean stud poker, horse racing, and sports wagering. In any case, it is to be understood that the term "live entertainment event" is bounded, with respect to any particular individual, by that individual's active or passive participation in any form of entertainment, instruction, or promotion associated with the venue.

For example, at a trade show, an attendee is often provided with commercial or technical information or promotion of goods or services offered by exhibitors at the show. It is to be understood that dissemination of such information or promotion constitutes entertainment within the meaning of that term as used herein, and the duration of the live entertainment event is understood to be defined by the attendee's presence at the venue. Similarly, a casino is often associated with a venue that includes a gaming area (i.e. the casino floor) in which persons engage in any of a variety of games of chance or

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gambling, as well as other appurtenant areas providing restaurants, shops selling various forms of merchandise, theaters or auditoriums, public gathering areas, and hotel accommodations. Participation in the present interactive method may be afforded to persons in any of these locations, all of which are to be understood as included in the term "live entertainment venue" as used herein. Other auxiliary areas such as parking lots, lawns, and the like are to be understood as included as well. The operation of casinos often entails some activities that are substantially continuous or repetitive in nature, such as the various games of chance (i.e. gaming events) known to patrons of such establishments, as well as other forms of entertainment that have a defined duration, such as live stage entertainment shows, concerts, sporting events, or the like. All of these activities are to be understood as being part of a live entertainment event for a participant enjoying these activities during his/her attendance at the live event venue.

In a step of the method, there is provided a wireless communication system adapted to transmit and receive messages with the wireless interactive devices used by the participants. The wireless system is further used to disseminate promotional messages to the participants through the user output interface of the wireless device.

The wireless device employed in the present method preferably presents promotional messages or advertising from sponsors and/or advertisers. Monetary compensation for the presentation of such advertising material is optionally used to defray or underwrite the costs associated with practice of the present invention. Messages can be in the form of indicia located (e.g., physically imprinted) on devices loaned, rented, or sold to participants. Additionally, the messages can be visually displayed by the device or can be aurally communicated through the same. The messages can be in the form of preprogrammed or stored aural or visual messages or recordings that are played, e.g. when the device is powered up or down, or at regular or random intervals during usage of the device. Preferably, messages are transmitted by the wireless communication system and presented live during the entertainment event via open band lines. Visual advertising may be presented in discrete segments interspersed with program content or it may be incorporated substantially continuously into the overall image being presented at a given time, such as a banner ad.

In still another aspect of the present method, demographic information or characteristics of the users of wireless interactive devices are gathered and used in various ways. Users may be asked to enter information, such as their age or gender. Alternatively, such information may already be extant and available in databases, such as records of cellular telephone customers. Such information may be used to select which of a plurality of advertisements are most appropriate and likely to be of interest to a given user. The individual addressability of devices such as cellular telephones and wireless PDA's permits individually selected commercials to be presented to particular individuals or groups. Demographic information may also be used to tailor questions and limit contest participation to selected users. For example, in some embodiments participation in all or part of a survey or competition may be offered only to a restricted group, such as preferred corporate customers, patrons in selected classes of seats, season ticket holders, youths, or other defined groups. At a casino or other entertainment venue within which entry to certain areas and participation in certain events, e.g. gambling and consumption of alcoholic beverages, is restricted by age, promotional messages may be limited accordingly. In addition, customer survey information is considered more useful by advertisers if

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the answers are categorized by the demographics of the respondents. All of these functions are easily implemented in the practice of the present method.

In an aspect of the invention, interactive participation using the present method and system is limited to participants who have been enrolled. Such enrollment may be effected by any suitable process carried out either before or during the live entertainment event. Optionally, enrollment requires monetary consideration from the person becoming an enrolled participant. Preferably, a participant enrolls by entering a predefined participant activation code using the wireless interactive device. In some implementations, an activation code is printed on a patron's entry ticket. Optionally the enrollment comprises entry of a physical location, such as a patron's designated seat in an auditorium or stadium. The activation code may also carry location information. Alternatively, prospective patrons may enroll by a method including a request for enrollment transmitted by telephone, e-mail, interactive registration through an Internet site, regular postal mail, in person at a kiosk at the event venue, or by using dedicated terminals at the venue. Optionally, the patron is provided with an activation code to be entered using the user input interface of the wireless device. Alternatively, persons having a suitable wireless device with localization circuitry may be identified as being present in the venue and thereafter enrolled automatically or be offered the chance to accept enrollment, e.g. by exchange of text messages. In other embodiments, participation is limited to persons who have enrolled and who are also identified by wireless device localization circuitry as being physically present at the event venue. Optionally, the participant status is terminated when the individual is no longer present in the venue, but may be restored automatically upon return to the venue. The enrollment may also be for a predetermined time period and expire thereafter. The dissemination of information, such as promotional messages and queries for the interactive contests afforded by the present method, may be limited to participants actually present at the venue.

In yet a further aspect, the present method may be used to conduct contests, games, and opinion polls of many types. Generally stated, such activities comprise the steps of: posing one or more questions to participants; eliciting the participants to enter an answer to the question using their wireless interactive devices; and processing the results. The questions may be posed using any communication form by which they can be effectively conveyed to participants. Preferably the questions are in a form that may be answered by selection of one of a relatively limited number of alternatives, such as a multiple-choice question or a rating scale. Answers may be entered using the user input interface. Preferably, the results are reported to at least the participants, but they may also be furnished to sponsors, advertisers, or other interested parties.

Contests and games may include many different types of questions. At sporting events, questions may likely entail game strategy; evaluations of performance; predicted outcomes of upcoming plays or games; trivia questions about past or present players, teams, championships, and performance statistics; or the like. For example, at an athletic event such as a football game, the questions may relate to selection of a most valuable player or to game strategy, such as whether a running or passing play is preferred in a given field situation. At a golf tournament, participants might be asked to indicate which club a player ought to select to accomplish a given shot. Concert goers might be asked to select a favorite song or artist from a number of choices presented or to choose songs to be performed during the concert. Civic events and political rallies might evoke questions about preferences of candidates

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for public office, opinions about civic issues, legislation, and public policies of many sorts. When practiced in connection with live entertainment events at a casino, the questions might involve tips, strategies, and instructions relevant to games of chance and participation therein. Participants may also be asked to rate goods or services, e.g. for quality, popularity, ease of use, or other desired characteristics. Other types of questions of more general nature and interest may also be used. Answers may be accepted for an extended period up to the full duration of the live event, but preferably are accepted during a limited, preselected time interval. Preferably, participants in the contests, games, or polls conducted in accordance with the invention are awarded prizes or other forms of consideration as inducement to participate. For example, one or more participants who correctly answer contest questions or participate in games or opinion polls may be awarded a cash prize or credit. One preferred form for the delivery of such a credit is an electronic coupon that can be redeemed for any form of consideration, including concessions, merchandise, and/or other prizes available at the live event venue. For example, a message may be transmitted to a user's wireless device bearing a unique authentication code that could be verified by a vendor, such as through a cash register electronically linked to the central processor or order processing server, or by a telephone call to a preselected verification number. Alternatively, a graphic image such as a bar code or other like pattern indicative of the coupon could be delivered for display on the user's wireless device and read by a suitable reader at a cash register. In still another alternative, a printed coupon can be physically delivered to the participant based on the location of the user's interactive device by means of communication with the transceiver located therein or by other indication means, or delivered to a remote location by actual physical delivery by mail or the like, or by any form of electronic delivery. In still another alternative, either points or direct monetary credits are entered electronically into an account associated with a user, such as a user's credit or debit card, an account for the user's wireless device or Internet service provider, or by other like means known in ordinary commerce. For example, a user collecting sufficient points may redeem them for goods, services, or money.

In an implementation, the present method also comprises querying the participants to respond with answers entered through the user input interface of the wireless device and transmitted therefrom using the wireless communication system. The answers received are transferred to a central processor for processing into results. It will be recognized that the accumulation of results may be done in the central processor or in one or more distributed receiving servers networked in data communication with the central processor by techniques well known in the computer art, such as by use of a local area network communicating over wire, wireless, or fiber optic communication links. Preferably, a stored computer program operative in either form of server accumulates and stores the incoming answers, at least temporarily, as participant data. The results of processing the participant data are also preferably stored, at least temporarily. At a suitable time, such as after the expiration of an announced deadline for participants to enter and transmit their responses to queries, the processed results are then announced to the participants. Optionally prizes are awarded to participants who have entered an answer.

In another implementation, the present method also comprises querying the participants to place a wager related to the live entertainment event with the wager being entered by the participants through the user input interface of the wireless device and transmitted therefrom using the wireless commu-

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nication system. The wagers received are transferred to a central processor for processing into results. It will be recognized that the accumulation of results may be done in the central processor or in one or more distributed receiving servers networked in data communication with the central processor by techniques well known in the computer art, such as by use of a local area network communicating over wire, wireless, or fiber optic communication links. Preferably, a stored computer program operative in either form of server accumulates and stores the incoming wagers, at least temporarily, as participant data. The results of processing the participant data are also preferably stored, at least temporarily. At a suitable time, such as after the expiration of an announced deadline for participants to enter and transmit their wagers to queries, the processed results are then announced to the participants. Preferably, credits in the form of real money or play money is added or subtracted to the participant's account according to the outcome of the live entertainment event. The amount of the addition or subtraction to the participant's account may depend on the amount of the wager, the type of gaming event, the odds related to the wager, etc. Optionally prizes are awarded to participants who have entered an answer.

It will be understood that all of the aforementioned computing functions can be carried out by one or more general-purpose computer processors located either within the event venue or its environs, or at a remote location linked by any suitable data communications link using cable, fiber-optic, wireless, or other comparable transmission. The computing functions may be carried out by a single central processor, by linked distributed processors, or a combination thereof.

Queries can be promulgated to the participants in many ways, including notice given by public address system announcements, visual displays on scoreboards, video monitors, or the like visible to the participants, or by messages such as aural, textual, or graphic messages transmitted to the interactive units and then output to the participant using the user output interface. In some implementations questions may be printed in event programs, flyers, newspapers, or the like. Optionally the queries are included in content provided by Internet portal sites to which the participants are connected. Questions may also be included in audio or video play-by-play descriptions, commentary, or announcements, or in other program content broadcast to the interactive units. Preferably, the questions or invitations to place a wager are promulgated using at least one display visible to the participants. More preferably, the visible display comprises large-scale displays, scoreboards, and/or monitors provided in the venue. After assimilation and processing of participant responses and wagers, announcement of results may be given to the participants by similar means, or by another form of public dissemination, such as an Internet posting.

Displaying the results of the processing of the participant data is a step that generally follows the processing of the participant data. This provides feedback to the participants, for example showing them how their answers and/or wagers compared to those of other participants.

In one embodiment, a display visible to a sizable number of participants, such as large scoreboard or screen display **40**, as depicted in FIG. 2, is used both for promulgating queries to participants and for announcing results. Any one or more large display devices capable of displaying a video, graphic, or alphanumeric image to a large number of participants may be used, a JUMBOTRON® display being one suitable and preferred type. Alternatively, the display visible to the participants comprises plural video monitors, preferably dispersed throughout the venue. For example, such monitors in

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the form of CRT displays, plasma screens, or other forms of video display devices may be provided in auxiliary areas of the live event venue or in private luxury box seating areas, such as those now commonly found at sports stadiums. Although FIG. 2 depicts the practice of the present method at a football stadium, it will be understood that the present invention may also be practiced at any other type of live event venue.

The questions and results are optionally displayed on these monitors. A user input interface, such as keypad **50** on device **10**, allows an audience member to enter a response to queries. Examples of simple user input interfaces include a keypad, selection buttons, a touch screen, a rotatable dial, a pointing device such as a mouse or trackball, and a voice recognition system, but any other user interface by which the required input can be effected could be incorporated in the practice of the invention. A voice recognition system advantageously facilitates the use of the present system by visually impaired persons. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

In FIG. 2 there is depicted the practice of an embodiment of the invention. At least some of the spectators at an athletic event occurring in a large, outdoor stadium are provided with an interactive device **10** and **10'**. It will be understood that the interactive device may be an item provided by the participant such as a cellular phone, or a wireless PDA or Pocket PC. Alternatively, suitable general- or special-purpose devices are made available at the spectator venue for purchase or rent or are given away without charge. In still other embodiments, the present system is operative both with user-provided devices and devices made available at the live event. The present inventor contemplates that only a portion of the spectators in attendance at an event may choose to participate, either by using a suitable interactive device they furnish or by obtaining a unit at the venue. In other embodiments of the invention up to substantially all of the patrons at a live event participate in accordance with the present method. In some implementations, participation is limited to participants who have officially enrolled, as provided herein. FIG. 2 further depicts the users entering answers to a query using keypads available on their respective interactive devices and the display of answers on a large display board **40**. In addition to displaying results of the audience querying or contest, the material displayed on board **40** or dispersed video monitors optionally also includes promotional messages or advertising. For example, a given contest question might be sponsored by a business entity in return for including advertising for the entity's products or services during the querying and announcing associated with that contest.

The offering of prizes to one or more selected participants who have responded to the querying, participated in the interactive games, or correctly answered quiz questions may be utilized to enhance the enjoyment of participants, to encourage further participation in the querying and contest aspects of the present method, and to promote the sale of goods and services. Such prizes include goods and services of any form or discounts toward the purchase thereof. Items may be delivered directly to a winning patron either at the live event location or another preselected location. Alternatively, coupons redeemable for items or services at no cost or at a reduced cost may be delivered to the winning patron in person; by mail or similar delivery service; or transmitted electronically using a message to the patron's wireless interactive device or as an entry in an account of the patron, such as a credit or debit card account, a wireless service provider account, or the like. In a preferred embodiment, credits or

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coupons are transmitted to the winning patron in conjunction with billings for such an account of the patron.

The responses of the participants are sent to a central processor (not shown) having a computer program stored and operative therein that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device 10 or a large screen display 40 remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation or tabulation of similar responses, as either a number or a percentage of total responses, a graphical representation in a bar chart, pie chart or the like, or a combined graphical and numerical representation of the data. The processing further may include categorization of participants' responses according to demographic characteristics, which might include the age or gender of the participant or his/her preferred team loyalty.

In addition to prizes that can be won by participating in the contests and polls described above, a number of other incentives are optionally offered to attendees to induce them to participate in the interactive aspects of the present invention. In one aspect, access to a chat room and instant messaging are provided to select persons, who are preferably all live entertainment event attendees. Participants may be enrolled by any suitable process, as delineated hereinabove. Messages may be exchanged interactively among the participants using any suitable protocol, such as cellular telephone text messaging and known systems used for instant messaging between Internet enabled personal computers and Internet-enabled wireless telephones, PCs, and PDAs. Optionally, enrolled participants are offered the chance to receive one or more newsworthy instant messages from a message sponsor, such as one of the participating teams in an athletic event, during the course of the live event. For example, at a sporting event such messages might provide condition reports on injured players or information on game strategy from expert commentators or coaches. In some embodiments, the chat room and instant message features are provided at no cost, while in others, a fee might be charged by the offering entity for the services. Other services optionally provided to enrolled participants might include user-selectable, on-demand instant replays and commentary concerning the live event; and cellular telephone ring tones associated with a sports team or other identifiable entity.

Other incentives optionally offered to induce spectators to participate include monetary considerations, discounts, or coupons redeemable for at least part of the cost of goods or services. Such forms of consideration may be physically delivered to a participant at the event venue or another location. Preferably, consideration is provided by electronic transfer using systems known in the art or as described elsewhere in this specification.

Still another incentive to participate is provided in implementations wherein food, beverages, goods, services, or the like can be ordered directly using the wireless interactive device. At virtually every live entertainment event, food and beverages intended for consumption during the event and merchandise thematically associated in some manner with the event are sold at various locations of the live event venue and by roving vendors. For example at a sporting event, the items offered may include wearing apparel bearing team logos, trademarks, or other indicia associated with a team or its players; related memorabilia such as souvenirs, posters, photographs, and recordings; and sporting equipment. Items sold at a concert or dramatic performance might include wearing apparel bearing indicia associated with the show or particular performers, programs, recordings, photographs, posters, or the like. The term "promotional merchandise" is

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often used generically for items marked with such logos; trademarks; images of players, performers, and event venues, especially those considered historically significant; and similar indicia. Other general interest items, novelties, tickets for future events, and the like are also sold.

In another embodiment of the present invention, the participant attends a gaming event venue such as a casino, horse track, or off track betting location. Regarded as a type of "answer", the participant is queried to more particularly place a "wager" related to a live entertainment event, and more specifically a gaming event. The participant places a wager related to the gaming event, such as blackjack, roulette, video poker, slots, poker, craps, bingo, Texas Hold 'Em poker, Caribbean stud poker, horse racing, and sports wagering. The specific rules of the gaming event, including the type and amount of the wager, is dependent on the specific type of gaming event and is known to those of ordinary skill in the art. Therefore, it is not necessary to discuss the details and rules of each type of gaming event named herein. However, it should be understood that a "wager" may consist of a bet (i.e. "raise" in poker), an instruction (i.e. "double down" in blackjack), an action (i.e. "fold" in poker), a lack of any action (i.e. "check" in poker). That is, as used herein, a "wager" may actually describe a series of actions related to a single "hand", "spin", etc., as opposed to a single action or bet. For example, when playing a single hand of Texas Hold 'Em poker, the participant may make several raises and checks during the single hand; these actions may either individually or collectively be referred to as a "wager", depending on the particular rules and nomenclature established by the event venue.

Preferably, a gaming account is established for each participant when the participant enrolls at the event venue. Preferably, the gaming event venue, such as a casino, strictly controls and manages the gaming account for each participant. That is, a participant establishes a gaming account that is unique to each different gaming event venue. For example, a participant must preferably establish a new gaming account should the participant desire to visit a different gaming event venue. Preferably, the gaming account allows a participant to electronically deposit and withdraw funds from the participant's banking account. A credit card, bank account number, prepaid account number, or other similar reference by which money is electronically credited may also be utilized. Alternatively, any mechanism for effecting electronic payment known in the relevant art is used. The gaming account is secure and preferably requires the use of one or more unique passwords for access by the participant. In an alternative embodiment, rather than real money, the participant instead uses play money to participate and place wagers related to gaming events. The use of play money is especially beneficial to novice participants who desire to learn and practice before wagering real money.

In one embodiment of the present invention, the gaming events are virtual; that is they are not actually visible or physically taking place in the real world, but instead occur over computer networks and are controlled by computer programs. Computer programs to run games of chance, such as blackjack, Texas Hold 'Em poker, roulette, and the like, are understood by those skilled in the art and require no further description. Such computer programs preferably include computer icons and graphics to mimic the actions that take place if the game was actually taking place in the real world. For example, individual participants are assigned a unique avatar to distinguish the participants from one another; wager amounts are depicted by graphical images of casino chips; and a casino dealer, table, and chairs are graphically depicted;

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each of these graphical depictions are preferably viewable on the user output interface of the wireless interactive device.

In summary, the participant is enabled the opportunity to place wagers and “gamble” electronically (i.e. virtually) by using the method and system of the present invention that involves the use of a wireless interactive device. Rather than physically sitting at the table games or slot machines on the casino floor, the participant is free to move about the event venue while gambling electronically. For example, the participant may play video poker while sipping on a cocktail and lounging by the outdoor pool of the casino. The participant does not have to be exposed to the crowds and germs otherwise encountered at the table games on the casino floor. Further, the participant never has to wait for an available seat to open on the \$5 blackjack table on the casino floor, for example. Further, the casino increases its revenue by allowing access to gaming by all guests at all times. It should further be understood that the participation in gaming events must be done legally by both the event venue and the participants.

Advantageously, the participant simply uses the wireless interactive device to gamble when and where he chooses, so long as he does so within the rules set by the event venue. Another advantage of the present invention, is that inexperienced gamblers can in effect play “privately” without facing possible embarrassment by other participants should they make a novice mistake. Further, compared to gambling online over the Internet within the confines of one’s home, the participant is afforded the social advantages of gambling around other people, being out of the house, and having access to the other amenities of the event venue at their fingertips. Further, because the management of the participant accounts, wagering, and results is handled by the event venue management, participants may be eligible for “comps” from the event venue for redemption at the event venue’s restaurants, shops, and the like. The “comps” may be based on the participant’s wagering history as known in the art.

It should further be understood that the event venue preferably earns revenue from the participant wagers. Such revenue may be in the form of a percentage of the wager, a flat fee, an entry fee, an enrollment fee, or the like. Such revenue may also come from advertisement revenue in exchange for the permission by the event venue for the advertisers to transmit promotional messages to the participants via the wireless interactive device.

In a preferred embodiment, a participant must be within the physical boundary of the event venue to participate and place wagers related to the entertainment event. Preferably, the event venue management maintains sole control over the wireless communication system that runs the receipt and processing of the wagers and results of the wagers placed by participants within the event venue. If the event venue is a casino, preferably it further has the ability to accept wagers related to sports wagering and horse racing, and further includes live televised access to the relevant sports activities or horse races. That is, the live entertainment event need not physically occur at the live event venue, so long as live televised access, or other remote access, to the entertainment event is provided at the event venue. Further, the act of wagering on the live entertainment event in and of itself is done “live”; otherwise, the act of wagering would be meaningless because the wager is by definition based on predicting the outcome of events that have yet to occur.

In other embodiments, the live entertainment event is held at the event venue. For example, the casino may include an arena or theater for the administration of a boxing match or other live entertainment event, whereby the participants may place wagers related to the entertainment event by using the

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method and system employing the wireless interactive device as described herein. In another example, the event venue is a horse track, the entertainment event is a horse race; the wager is related to the horse race; and, therefore, the entertainment event is held at the event venue itself.

In an implementation, participants use the wireless interactive device to place orders for the aforementioned goods and services. Advantageously, the interactive querying and contest aspects of the present method provide an impetus for users also to give attention to advertising that urges the purchase of goods and services. For example, such advertisements may be interspersed with questions and contests, enhancing the likelihood that a patron will be motivated to make a purchase. In an embodiment, advertisements promoting the items are stored in a transaction server or recording system in data communication with the wireless communication system. Advertisements are selectively or generally transmitted by the wireless system for output by the user output interface of each interactive device.

The user enters an order for desired items or services using the user input interface, such as the keypad of a cellular telephone or PDA. In an implementation, the order is transmitted to the wireless communication system and routed to an order fulfillment server system. A computer program stored and operative therein receives the orders and communicates them to a provider of goods and services for order fulfillment. Physical goods, such as food and beverage, promotional merchandise items, and souvenirs may be delivered to the patron’s seat, made available for pickup at a predetermined location within the live event venue, or shipped to another appointed location. In some embodiments, the wireless interactive device incorporates circuitry, such as global positioning system (GPS) technology, whereby the device may be localized sufficiently to allow the provider to determine a patron’s physical location and thereby effect direct delivery of items to the patron. Alternatively, the user may enter a seat location either as part of the order entry process or at an earlier time, e.g. during enrollment in the aforementioned chat room and instant messaging services. Intangible items or services, such as tickets to future events or coupons redeemable for other items or for reduced prices, may be provided by similar forms of delivery or communicated electronically using known techniques. Optionally, a text message or other message confirming the order is returned to the purchaser for output using the wireless interactive device. Preferably, monetary consideration for purchased goods or services is provided by electronic transfer of funds between bank accounts or by charges billed to a user, such as to a user’s conventional debit or credit card or wireless service provider account. Consummation of transactions using other forms of payment known for electronic processing may also be used and are to be considered within the scope of the method of the invention. In one embodiment, the present system is connected to an electronic financial network of a type known in the art. Transfer of funds from the network provides monetary consideration to the provider for the goods and services received by the ordering participant.

In one embodiment, a menu of items available for purchase is transmitted upon the user’s request to the interactive device. A hierarchical arrangement of a known sort including submenus may be used in situations wherein more items are available than can be accommodated within the confines of output displays of extant interactive devices. Preferably the items offered include at least food, drink, souvenir merchandise, and tickets for future events. In order to place an order, a user navigates using the input interface through the menus to select one or more items for purchase. The user may further

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enter location or other identifying indicia, such as a unique seat number or other reference number by which correct delivery may be effected. A credit card, bank account number, prepaid account number, or other similar reference by which money is electronically credited to the vendor in payment for the items ordered is also entered. Alternatively, any mechanism for effecting electronic payment known in the relevant art is used. As is well understood by those skilled in the art, even the limited hardware display and processing capacity of present cellular telephones, PDA's, and pagers is sufficient to accommodate the aforementioned menu and ordering method. However, as time moves on, much higher text densities and graphics resolution will likely become commonplace in such devices and allow ever-increasing functionality to be provided and used in the method of this invention. As hierarchical menu systems have become ubiquitous with the advent of automated teller machines and windowed graphical user interfaces on modern personal computer operating systems, the concept and the method of their use are familiar to many persons and will not be further described here.

The use of electronic ordering and payment facilitates sales made in accordance with the present method. Items can be ordered by patrons from their seats at any time and timely delivered, without the need to wait for the unpredictable arrival of a roving vendor or cocktail waitress who may not even be carrying the item desired. Food and beverage items carried by the roving vendor are often not maintained at a temperature that is pleasing to the patron, i.e. cold items have warmed up and hot items have cooled excessively. The confusion of having to communicate an order in the often-noisy environment of a sports stadium, casino, or other even venue is eliminated, as is the inconvenience of passing money in payment and change, possibly across many patrons between the customer and the closest aisleway. In addition to use of common credit and debit cards as means of payment, corporate accounts and billing through third party accounts such as the customer's Internet service provider or cellular telephone service provider are readily effected in a transaction processed in accordance with the present method.

In addition, other services are optionally offered, such as restaurant, lodging and transportation reservations, biographical and recording data for athletes, concert artists, and other performers, future schedules of events, and myriad other information. This information can be conveyed visually, audibly, or via a combination of both media forms. The offerings presented through the wireless interactive device may be complemented by messages simultaneously displayed on scoreboards, video monitors, or the like to enhance their ability to garner the audience's attention.

Yet another aspect of the invention allows participants to interactively participate in auctions, which may be of any type commonly known, including conventional auctions wherein items are sold to the lowest bidder; Dutch auctions, in which one or more items are offered at a fixed price to the first bidder or preselected maximum number of bidders; a reverse auction, in which the price of an item is lowered in response to a large number of bids received; and other forms. The goods or services offered in such auctions preferably are related thematically to the live entertainment event but may also include any goods or services of interest to the participants. The auctions are conducted by disseminating a description of the goods or services offered to the participants through one or more of the modes discussed hereinabove for the dissemination of the contest queries of the invention. Participants enter their bids or related responses by using the user input interface of their wireless interactive devices. Such auctions conducted at a live entertainment event in accordance with the

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invention beneficially evoke a high level of interest due to the level of enthusiasm and excitement typically evident at a live event.

Preferably, the opportunity to participate in the various interactive features of the present method and system, along with eligibility for the various prizes and other incentives, are offered to substantially all the persons at the live entertainment event. However, participation in some or all features may be limited to some subset of the persons physically present at the event.

FIG. 3 depicts one implementation of the system **100** of the invention. A wireless communications system **105** provides service to cellular telephones, wireless PDA's, and Pocket PC's. Wireless interactive devices used with the system are a plurality of cellular telephones **110** and served by cellular telephone provider **112** through signals transmitted and received at antenna **114**. Wireless PDA's **116** are served by wireless PDA service provider **118** through signals transmitted and received at antenna **120**. A wireless local area network **122** transmitting signals in accordance with IEEE Standard 802.11 from antenna **124** serves wireless Pocket PC's **126**. Each of cellular telephone provider **112**, wireless PDA service provider **118**, and wireless local area network **122** communicates through the Internet **128**. Promotional message server **130** selects promotional messages which are transmitted via the Internet to wireless communications system **105** and broadcast to interactive devices **110**, **116**, and **126**. Promotional messages are also transmitted to stadium display **132**, which includes a controller operative to receive digital information, e.g. information received via the Internet, and convert it into corresponding textual, graphic, or video displays for presentation. Central processor **134** provides queries displayed on display **132**. Answers to such queries are entered on the user input interfaces of interactive devices **110**, **116**, and **126** and received by distributed receiving servers (not shown) maintained by each of cellular telephone provider **112**, wireless PDA service provider **118**, and wireless local area network **122**. The distributed receiving servers accumulate the answers and transfer them by Internet to central processor **134** for processing into results, which are then communicated and displayed by display **132**. Order processing server **136** receives orders for goods and services entered by participants using their wireless interactive devices and communicates those orders to one or more providers **138** of goods and services, such as food/beverage vendors. Connection **140** to electronic financial network **142** enables the electronic transmission to providers **138** of monetary consideration for the goods and services they furnish. It will be understood by those skilled in the relevant art that the functions of the plural servers alternatively may be shared among a smaller number of servers or may be accomplished by central processor **134**. The plural servers also may be in data communications via the Internet or a local network implemented using connections by wire, wireless, or optical data transmission, in any way conventional in the art. Other networking protocols suitable for the interchange of digital information may also be used.

FIG. 4 depicts a schematic diagram of a participant **47** at an entertainment event venue **40** utilizing the interactive participation system of the present invention. Once enrolled, the participant **47** is able to participate in the entertainment event by placing wagers related thereto via the user input interface of the wireless interactive device. For purposes of illustration only, the entertainment event venue **40** is a casino. Other types of event venues may include horse racing tracks and off track betting locations. By utilizing the wireless capabilities of the interactive device and wireless communication system, the

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participant 47 is able to enroll and place wagers (i.e. gamble) virtually anywhere within the casino 40. For example, the participant 47 may place wagers related to a gaming event while physically located at any of the following locations within the casino: the pool 41, the bar 42, the lounge 43, the restaurant 44, the casino floor 45, the restrooms 46, or other location. The participant enjoys enhanced convenience and access for participation in gaming events, such as casino games and slots, horse racing, sports wagering, and the like. According to the outcome of the gaming event, the system processes the wagers into results and announces the results to the participants.

Having thus described the invention in rather full detail, it will be understood that such detail need not be strictly adhered to, but that additional changes and modifications may suggest themselves to one skilled in the art, all falling within the scope of the invention as defined by the subjoined claims.

What is claimed is:

1. A method for enabling interactive participation at a live entertainment event at a live event venue and attended by a plurality of persons at said venue, at least a portion of said persons being participants employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user input interface, and (iii) output messages to a user output interface,

the method comprising the steps of:

providing a wireless communication system for transmitting and receiving messages with said interactive device; enrolling a plurality of said persons as said participants; querying said participants to place a wager related to said live entertainment event with said wager being entered by said participants through said user input interface and transmitted by said interactive device; receiving said wagers entered by said participants; transferring said wagers to a central processor; disseminating at least one promotional message to said participants through said user output interface of said interactive device; said dissemination comprising a promotional message server in data communication with said wireless communication system, said promotional message server providing said at least one promotional message from a plurality of messages stored in said promotional message server to said wireless interactive device through said wireless communications system, according to the outcome of said live entertainment event, processing said wagers into results using said central processor and announcing said results to said participants.

2. A method as recited by claim 1, wherein said live entertainment event is a live gaming event.

3. A method as recited by claim 2, wherein said live gaming event is a live virtual gaming event.

4. A method as recited by claim 3, wherein said live virtual gaming event is administered by a computer program.

5. A method as recited by claim 2, wherein said live gaming event is blackjack.

6. A method as recited by claim 2, wherein said live gaming event is roulette.

7. A method as recited by claim 2, wherein said live gaming event is video poker.

8. A method as recited by claim 2, wherein said live gaming event is slots.

9. A method as recited by claim 2, wherein said live gaming event is poker.

10. A method as recited by claim 2, wherein said live gaming event is craps.

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11. A method as recited by claim 2, wherein said live gaming event is bingo.

12. A method as recited by claim 2, wherein said live gaming event is Texas Hold 'Em poker.

13. A method as recited by claim 2, wherein said live gaming event is Caribbean stud poker.

14. A method as recited by claim 2, wherein said live gaming event is horse racing.

15. A method as recited by claim 2, wherein said live gaming event is sports wagering.

16. A method as recited by claim 2, further comprising the step of: displaying the outcome of said live gaming event to said participants on said interactive device.

17. A method as recited by claim 1, wherein said live event venue is a live gaming event venue.

18. A method as recited by claim 17, wherein said live gaming event venue is a casino.

19. A method as recited by claim 17, wherein said live gaming event venue is a horse racing track.

20. A method as recited by claim 17, wherein said live gaming event venue is an off track betting location.

21. A method as recited by claim 1, further comprising the step of: establishing a gaming account for each of said participants.

22. A method as recited by claim 21, further comprising the step of: establishing an initial gaming account value for each of said participants.

23. A method as recited by claim 21, further comprising the step of: according to the outcome of the live gaming event, awarding credits to said gaming accounts of the winning participants.

24. A method as recited by claim 23, wherein said credits comprise real money.

25. A method as recited by claim 23, wherein said credits comprise play money.

26. A method as recited by claim 1, wherein said wireless interactive device further comprises localization circuitry for transmitting a physical location thereof, said method further comprises the step of detecting said transmitted location.

27. A method as recited by claim 26, wherein said enrolling step is effected automatically for devices wherein said transmitted location is within said live event venue.

28. A method as recited by claim 1, further comprising the step of disseminating at least one promotional message to said participants.

29. A method as recited by claim 28, wherein said promotional message is displayed on said user output interface.

30. A method as recited by claim 28, wherein said promotional message is disseminated for monetary consideration from an advertiser.

31. A method as recited by claim 28, further comprising collecting demographic characteristics of at least a portion of said participants.

32. A method as recited by claim 31, wherein said promotional message is selected based on said demographic characteristics of said participant.

33. A method as recited by claim 1, wherein said transmitting is carried out using at least one of telephone, e-mail, interactive registration through an Internet site, regular postal mail, and a kiosk or terminal at said live event venue.

34. A method as recited by claim 1, wherein said enrolling comprises transmission of a text message from said wireless interactive device.

35. A method as recited by claim 1, wherein said enrolling comprises entry of an activation code using said user input interface of said wireless interactive device.

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36. A method as recited by claim 1, wherein said enrolling is terminated upon the departure of said participant from said live event venue.

37. A method as recited by claim 1, wherein said enrolling expires after a predetermined time period.

38. A method as recited by claim 1, wherein a unique signature is associated with each of said wireless interactive devices and is transmitted therefrom.

39. A method as recited by claim 38, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

40. A method as recited by claim 1, further comprising the step of providing an entry ticket to each of said persons for entry to said live entertainment event, said entry ticket bearing unique identifying indicia appointed to be entered into said interactive device, and said unique signature contains coding corresponding to said indicia.

41. A method as recited by claim 1, further comprising the step of conducting an auction of goods or services, wherein participants submit bids entered using said user input interface.

42. A method as recited by claim 1, further comprising the step of offering at least one incentive to induce said persons to become said participants during said live entertainment event.

43. A method as recited by claim 42, wherein said incentive comprises the dissemination of at least one instant message to said participants during said live entertainment event.

44. A method as recited by claim 42, wherein said incentive comprises a chat room in which participation is limited to said participants.

45. A method as recited by claim 42, wherein said incentive comprises conveying to said participant at least one of goods, services, or coupons redeemable for at least part of the price of goods or services.

46. A method as recited by claim 42, wherein said incentive comprises electronic transfer of consideration to said participant.

47. A method as recited by claim 1, further comprising the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface.

48. A method as recited by claim 47, wherein said informational items contain event-related content.

49. A method as recited by claim 47, wherein said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

50. A method as recited by claim 1, wherein said querying comprises a contest.

51. A method as recited by claim 1, wherein said querying comprises a game.

52. A method as recited by claim 1, wherein said querying comprises an opinion poll.

53. A method as recited by claim 1, further comprising the step of awarding a prize to at least one of said participants who has entered a wager in response to said querying.

54. A method as recited by claim 53, wherein said prize is delivered to said participant.

55. A method as recited by claim 53, wherein said prize is transferred electronically to said participant.

56. A method as recited by claim 1, further comprising the steps of soliciting a purchase of goods or services by said participants; accepting orders for said purchase entered by said participants using said user input interface, transmitted by said interactive device; and submitting said orders to a vendor for fulfillment for monetary consideration.

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57. A method as recited by claim 56, wherein said goods comprise at least one item of food, beverage, and promotional merchandise.

58. A method as recited by claim 56, wherein a unique signature is associated with each of said wireless interactive devices and is transmitted therefrom and wherein said goods or services are delivered using said unique signature to locate said participants in said live event venue.

59. A method as recited by claim 56, wherein said interactive device further comprises localization circuitry and transmits a position obtained from said localization circuitry and indicia identifying said device, and said position and indicia are used to effect delivery of goods to said participant.

60. A method as recited by claim 1, wherein said querying is limited to a portion of said participants.

61. A method as recited by claim 1, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

62. A method as recited by claim 1, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

63. A method as recited by claim 1, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

64. A method as recited by claim 1, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

65. A method as recited by claim 1, wherein said querying step is accomplished by at least one display visible to said participants.

66. A method as recited by claim 65, wherein said display comprises at least one of a scoreboard and a large-scale video display.

67. A method as recited by claim 65, wherein said live event venue includes at least one auxiliary area and said display is visible in said auxiliary area.

68. A method as recited by claim 1, wherein said querying step is accomplished by a notice audible to said participants.

69. A method as recited by claim 1, wherein said querying step is accomplished by a message transmitted by said wireless communication system to said interactive device and output by said user output interface.

70. A method as recited by claim 1, wherein said announcing step is accomplished by a notice audible to said participants.

71. A method as recited by claim 1, wherein said announcing step is accomplished by at least one display visible to said participants.

72. A method as recited by claim 1, wherein said announcing step is accomplished by a message transmitted by said wireless communication system to said interactive devices and output by said user output interface.

73. A method as recited by claim 1, wherein said live entertainment event comprises multiple activities occurring simultaneously in different locations within a venue.

74. A method as recited by claim 1, wherein said live entertainment event comprises at least one activity having programmatic content with an identifiable duration.

75. A method as recited by claim 1, wherein said live entertainment event comprises activity that occurs substantially continuously during said event.

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76. A system for enabling interactive participation at a live entertainment event at a live event venue and attended by a plurality of persons at said venue, at least a portion of said persons being participants employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user input interface, and (iii) output messages to a user output interface, the system comprising:

a wireless communication means for transmitting and receiving messages with said interactive device;

means for querying said participants to place a wager related to said live entertainment event with said wager being entered by said participants through said user input interface and transmitted by said interactive device;

means for processing into results said wagers entered by said participants according to the outcome of said live entertainment event, said wagers being received by said wireless communications system, and transferred to a central processor;

means for announcing said results;

means for disseminating at least one promotional message to said participants through said user output interface of said interactive device; said dissemination comprising a promotional message server in data communication with said wireless communication system, said promotional message server providing said at least one promotional message from a plurality of messages stored in said promotional message server to said wireless interactive device through said wireless communications system.

77. A system as recited by claim 76, wherein said live entertainment event is a live gaming event.

78. A system as recited by claim 77, wherein said live gaming event is a live virtual gaming event.

79. A system as recited by claim 78, wherein said live virtual gaming event is administered by a computer program.

80. A system as recited by claim 77, wherein said live gaming event is blackjack.

81. A system as recited by claim 77, wherein said live gaming event is roulette.

82. A system as recited by claim 77, wherein said live gaming event is video poker.

83. A system as recited by claim 77, wherein said live gaming event is slots.

84. A system as recited by claim 77, wherein said live gaming event is poker.

85. A system as recited by claim 77, wherein said live gaming event is craps.

86. A system as recited by claim 77, wherein said live gaming event is bingo.

87. A system as recited by claim 77, wherein said live gaming event is Texas Hold 'Em poker.

88. A system as recited by claim 77, wherein said live gaming event is Caribbean stud poker.

89. A system as recited by claim 77, wherein said live gaming event is horse racing.

90. A system as recited by claim 77, wherein said live gaming event is sports wagering.

91. A system as recited by claim 76, wherein said live event venue is a live gaming event venue.

92. A system as recited by claim 91, wherein said live gaming event venue is a casino.

93. A system as recited by claim 91, wherein said live gaming event venue is a horse racing track.

94. A system as recited by claim 91, wherein said live gaming event venue is an off track betting location.

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95. A system as recited by claim 76, further comprising the step of: establishing a gaming account for each of said participants.

96. A system as recited by claim 95, further comprising the step of: establishing an initial gaming account value for each of said participants.

97. A system as recited by claim 95, further comprising the step of: according to the outcome of the live gaming event, awarding credits to said gaming accounts of the winning participants.

98. A system as recited by claim 97, wherein said credits comprise real money.

99. A system as recited by claim 76, further comprising the step of: displaying the outcome of said live gaming event to said participants on said interactive device.

100. A system as recited by claim 97, wherein said credits comprise play money.

101. A system as recited by claim 76, wherein said wireless interactive device further comprises localization circuitry for transmitting a physical location thereof, said system further comprises means for detecting said transmitted location, and means for automatically enrolling a plurality of said persons as said participants when said transmitted location is within said live event venue.

102. A system as recited by claim 76, wherein said wireless communications means comprises at least one wireless system operated by a wireless service provider.

103. A system as recited by claim 76, wherein said querying means comprises at least one display visible to said participants.

104. A system as recited by claim 76, wherein said announcing means comprises at least one display visible to said participants.

105. A system as recited by claim 76, further comprising at least one prize appointed to be awarded to at least one of said participants.

106. A system as recited by claim 76, further comprising an order processing server in data communication with said wireless communications means, said order processing server receiving orders for goods and services entered by said participants using said user input interface and communicating said orders to a provider of goods and services for order fulfillment.

107. A system as recited by claim 106, further comprising a connection to an electronic financial network by which monetary consideration is received for said goods and services provided to said participant by said provider.

108. A system as recited by claim 76, wherein said wireless interactive device is a member selected from the group consisting of cellular telephones, wireless personal digital assistants, wireless pocket PC's, and two-way pagers, said member being provided wireless access by said wireless service provider.

109. A system as recited by claim 76, wherein said wireless interactive device is Internet enabled and communicates therewith.

110. A system as recited by claim 76, wherein said wireless interactive device incorporates circuitry for receiving broadcast informational items and said system further comprises a broadcasting system broadcasting said informational items appointed to be received by said wireless interactive device.

111. A system as recited by claim 76, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

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112. A system as recited by claim 76, wherein said user output interface bears at least one of said query directed to said participants and said results.

113. A system as recited by claim 76, wherein said means for processing comprises a central processor including at least one general-purpose computer.

114. A system as recited by claim 76, further comprising at least one distributed receiving server in data communication with said central processor and said wireless communications system, and wherein a computer program stored in said receiving server receives said wagers and transfers said wagers to said central processor.

115. A system as recited by claim 76, further comprising at least one visible display bearing at least one of said query directed to said participants and said results.

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116. A system as recited by claim 115, wherein said visible display comprises a plurality of video monitors dispersed throughout said venue.

117. A system as recited by claim 115, wherein said visible display comprises a scoreboard visible to the participants in said venue.

118. A system as recited by claim 115, wherein said visible display comprises a large screen display visible to the participants in said venue.

119. A system as recited by claim 76, wherein a computer program stored in said central processor is operative to process into results said wagers entered by said participants.

120. A system as recited by claim 76, wherein said promotional message server employs demographic characteristics of said participants in selecting said promotional message.

* * * * *

EXHIBIT 19

US007693532B2

(12) **United States Patent**
Inselberg(10) **Patent No.:** **US 7,693,532 B2**(45) **Date of Patent:** ***Apr. 6, 2010**(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**(76) Inventor: **Eric Inselberg**, P.O. Box 833, Short
Hills, NJ (US) 07078(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.This patent is subject to a terminal dis-
claimer.(21) Appl. No.: **12/381,701**(22) Filed: **Mar. 16, 2009**(65) **Prior Publication Data**

US 2009/0177533 A1 Jul. 9, 2009

Related U.S. Application Data(63) Continuation of application No. 12/228,908, filed on
Aug. 18, 2008, which is a continuation of application
No. 11/894,189, filed on Aug. 20, 2007, now Pat. No.
7,424,304, which is a continuation of application No.
11/542,819, filed on Oct. 4, 2006, now Pat. No. 7,522,
930, which is a continuation of application No. 11/266,
783, filed on Nov. 4, 2005, now Pat. No. 7,123,930,
which is a continuation of application No. 10/661,871,
filed on Sep. 12, 2003, now Pat. No. 6,975,878, which
is a continuation of application No. 09/854,267, filed
on May 11, 2001, now Pat. No. 6,650,903, which is a
continuation of application No. 09/656,096, filed on
Sep. 6, 2000, now Pat. No. 6,434,398.(51) **Int. Cl.**
H04B 7/00 (2006.01)(52) **U.S. Cl.** **455/517; 455/575.6; 463/40**(58) **Field of Classification Search** 455/414.2,
455/414.1, 466, 3.01–3.06, 517, 575.6; 463/36–42;
434/350, 362, 323, 322; 273/460; 705/10,
705/14, 27, 29; 725/24, 32, 74, 86
See application file for complete search history.(56) **References Cited**

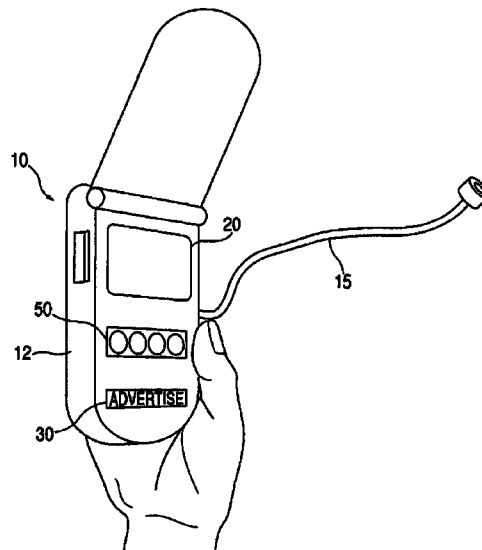
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Primary Examiner—Jean A Gelin(74) *Attorney, Agent, or Firm*—Ernest D. Buff & Associates,
LLC; Ernest D. Buff; Aniket Patel(57) **ABSTRACT**

The present invention relates to a method for providing interactive audience participation at live entertainment events. The method includes providing audience members with an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.

89 Claims, 2 Drawing Sheets

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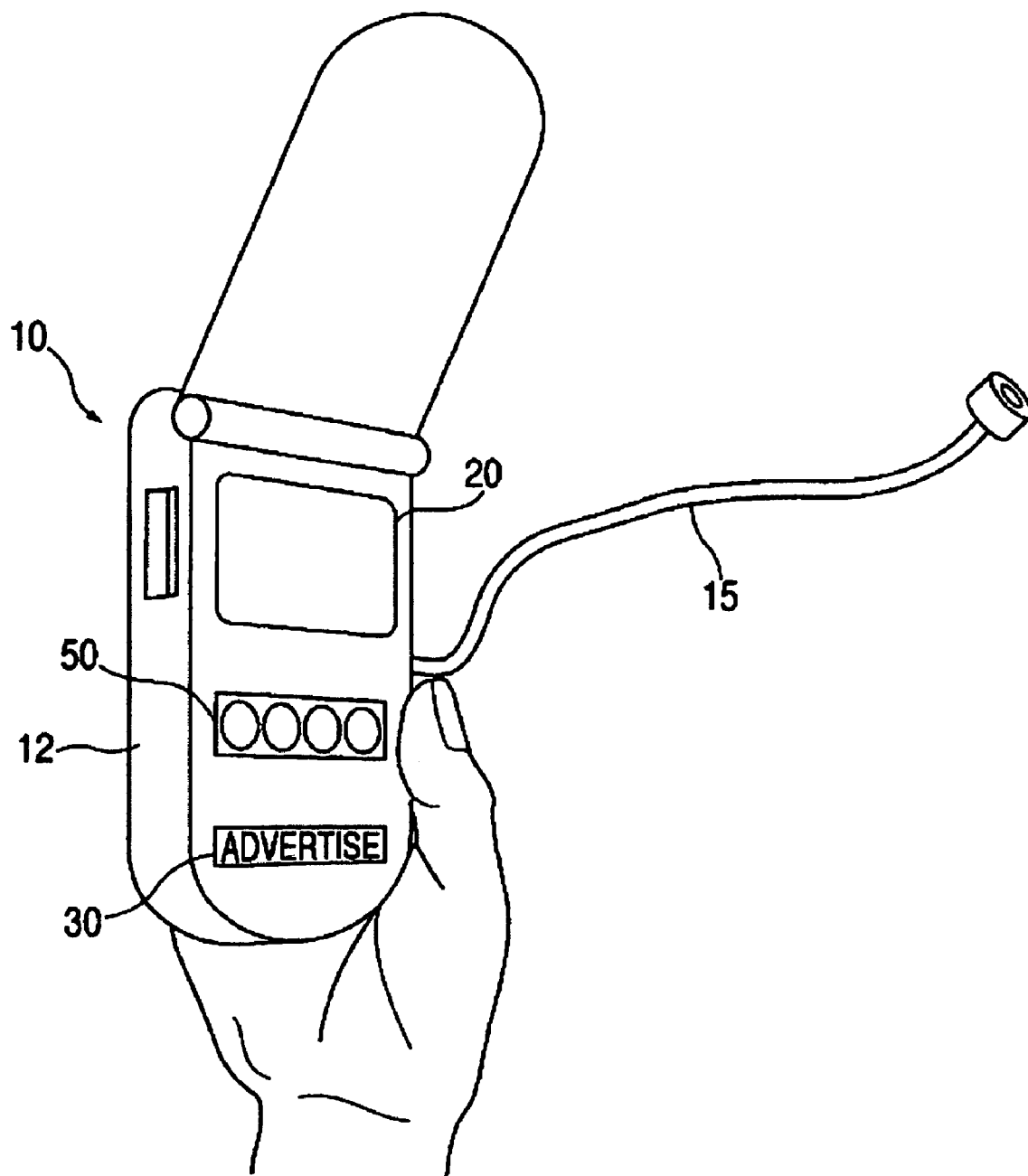
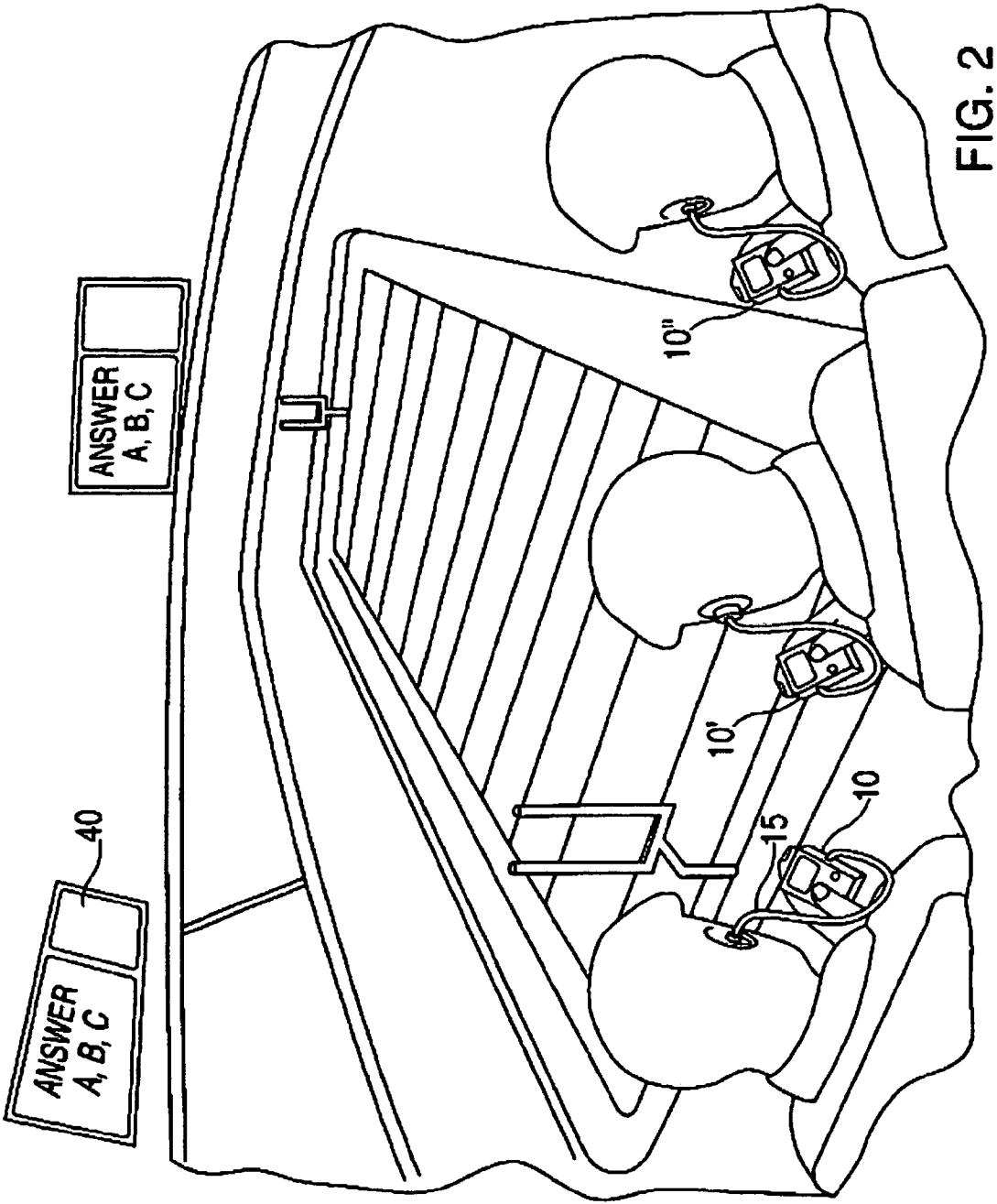


FIG. 1



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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's co-pending U.S. patent application Ser. No. 12/228,908, filed Aug. 18, 2008, which is a continuation of applicant's application Ser. No. 11/894,189, filed Aug. 20, 2007, now U.S. Pat. No. 7,424,304 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 11/542,819, filed Oct. 4, 2006, now U.S. Pat. No. 7,522,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005 now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, now U.S. Pat. No. 6,975,878, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

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One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be

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awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention; and

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device **10** adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device **10** includes a housing **12** with an electronic display opening. The device **10** preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece **15** is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

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An electronic display (visual display) **20** is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device **10** preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia **30** located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display **20** of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display **30**, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface **50** on the device **10** allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device **10** or a large screen display **40** remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device **10**, **10'** and **10''**. FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting

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a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A program storage device readable by machine, tangibly embodying instructions executable by the machine to allow the machine to interface with a system for enabling interactive participation by audience members viewing a live entertainment event at a venue, the machine having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

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a wireless communication system configured to transmit and receive messages with the interactive device;
a means for querying the audience members to respond to at least one query with answers entered through the user interface and transmitted by the interactive device;
a means for receiving the answers at a central processing station or distributed processing stations;
a means for storing the received answers as audience data;
a central processor configured to receive and process the audience data into results; and
a means for disseminating at least one promotional message of a sponsor to the audience members through the electronic display, and
wherein the venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

2. A program storage device, as recited in claim 1, wherein one or more of the audience members are physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

3. A program storage device, as recited in claim 1 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

4. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 1.

5. A program storage device, as recited in claim 2, wherein the place is a concession stand.

6. A program storage device, as recited in claim 2, wherein the place is a restroom.

7. A program storage device, as recited in claim 2, wherein the place is a parking lot that services the venue.

8. A program storage device, as recited in claim 2, wherein the place is a remote stadium.

9. A program storage device, as recited in claim 2, wherein the place is a convention ball.

10. A program storage device, as recited in claim 2, wherein the place is a restaurant.

11. A program storage device, as recited in claim 2, wherein the place is a bar.

12. A program storage device, as recited in claim 2, wherein the place is a house.

13. A program storage device, as recited in claim 12, wherein the place is a restroom within the house.

14. A program storage device, as recited in claim 12, wherein the place is a living room within the house.

15. A program storage device, as recited in claim 12, wherein the place is a kitchen within the house.

16. A program storage device, as recited in claim 12, wherein the place is a bedroom within the house.

17. A program storage device, as recited in claim 1, further comprising a means for broadcasting the results to the audience members.

18. A program storage device, as recited in claim 1, further comprising a means for providing the results to the sponsor.

19. A program storage device, as recited in claim 1, wherein the querying means comprises use of the interactive device.

20. A program storage device, as recited in claim 1, wherein the querying means comprises at least one large screen display visible to audience members in the venue.

21. A program storage device, as recited in claim 1, wherein the querying means comprises a stadium monitor system visible to audience members in the venue.

22. A program storage device, as recited in claim 17, wherein the broadcasting means comprises at least one large screen display visible to audience members in the venue.

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23. A program storage device, as recited in claim 17, wherein the broadcasting means comprises a stadium monitor system visible to audience members in the venue.

24. A program storage device, as recited in claim 1, further comprising at least one prize appointed to be awarded to at least one of the audience members.

25. A program storage device, as recited in claim 1, wherein the wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, and satellite transmission.

26. A program storage device, as recited in claim 1, further comprising means for broadcasting messages from the interactive device of one of the participating audience members to the interactive device of another of the participating audience members.

27. A program storage device, as recited in claim 1, wherein each of the interactive devices has a unique address programmed therein.

28. A program storage device, as recited in claim 1, further comprising means for providing audio transmission of audible programming to the interactive devices, the audible programming comprising at least one of play-by-play, expert commentary, traffic reports, and weather reports.

29. A program storage device readable by machine, tangibly embodying a set of instructions executable by the machine to perform one or more steps of a method for enabling interactive audience participation at a live entertainment event at a venue viewed by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of:

querying the participating audience members;
receiving answers to the querying entered by the participating audience members via the user interface of the interactive device;

transmitting the answers to a central processor;

processing the answers into results;

broadcasting the results to the plurality of participating audience members viewing the live entertainment event; and presenting a promotional message to each participating audience member,

wherein the live entertainment venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

30. A program storage device, as recited in claim 29, wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

31. A program storage device, as recited in claim 29 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

32. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 29.

33. A program storage device, as recited in claim 30, wherein the place is a concession stand.

34. A program storage device, as recited in claim 30, wherein the place is a restroom.

35. A program storage device, as recited in claim 30, wherein the place is a parking lot that services the venue.

36. A program storage device, as recited in claim 30, wherein the place is a remote stadium.

37. A program storage device, as recited in claim 30, wherein the place is a convention hall.

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38. A program storage device, as recited in claim 30, wherein the place is a restaurant.

39. A program storage device, as recited in claim 30, wherein the place is a bar.

40. A program storage device, as recited in claim 30, wherein the place is a house.

41. A program storage device, as recited in claim 30, wherein the place is a restroom within the house.

42. A program storage device, as recited in claim 30, wherein the place is a living room within the house.

43. A program storage device, as recited in claim 30, wherein the place is a kitchen within the house.

44. A program storage device, as recited in claim 30, wherein the place is a bedroom within the house.

45. A program storage device, as recited in claim 29, wherein the wireless interactive device employs a form of wireless communications selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

46. A program storage device, as recited in claim 29, wherein the promotional message is imprinted on the device.

47. A program storage device, as recited in claim 29, wherein the promotional message is transmitted wirelessly to the interactive device and is presented to the participating audience member either visually or aurally.

48. A program storage device, as recited in claim 29, wherein the promotional message is pre-programmed in the interactive device.

49. A program storage device, as recited in claim 29, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

50. A program storage device, as recited in claim 49, wherein the awarding of prizes is accomplished by electronic delivery.

51. A program storage device, as recited in claim 49, wherein the awarding of prizes is accomplished by direct delivery to the at least one selected audience member.

52. A program storage device, as recited in claim 29, wherein the interactive device is adapted to allow the broadcasting of messages from one of the participating audience members to another of the participating audience members.

53. A program storage device, as recited in claim 29, wherein each interactive device has a unique address programmed therein.

54. A program storage device, as recited in claim 29, wherein the answers are received at a central processing station and thereafter transmitted to the central processor.

55. A program storage device, as recited in claim 29, wherein the answers are received at distributed processing stations and thereafter transmitted to the central processor.

56. A program storage device, as recited in claim 29, wherein the live entertainment event is a sporting event.

57. A program storage device, as recited in claim 29, wherein the live entertainment event is conducted at a live entertainment venue.

58. A program storage device, as recited in claim 29, wherein the step of querying comprises use of a Large screen display.

59. A program storage device, as recited in claim 29, wherein the step of querying comprises use of a stadium monitor system.

60. A program storage device, as recited in claim 29, wherein the step of querying comprises use of the interactive device.

61. A program storage device, as recited in claim 29, wherein the step of broadcasting comprises use of a large screen display.

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62. A program storage device, as recited in claim 29, wherein the step of broadcasting comprises use of a stadium monitor system.

63. A program storage device, as recited in claim 29, wherein the step of broadcasting comprises use of the inter-
active device. 5

64. A program storage device readable by machine, tangibly embodying a set of instructions, executable by the machine, to perform a method for interactive audience participation at a live entertainment event at a venue viewed by audience members, a plurality of whom have a wireless inter-
active device including a user interface, the method comprising the steps of:

presenting at least one promotional message from a sponsor;

querying the audience members;

receiving answers to the querying entered via the user interface of the interactive device;

transmitting the answers to a processor;

processing the answers into results; and

providing the results to the sponsor,

wherein the live entertainment venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

65. A program storage device, as recited in claim 64, wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

66. A program storage device, as recited in claim 64 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine. 30

67. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 64.

68. A program storage device, as recited in claim 65, wherein the place is a concession stand. 35

69. A program storage device, as recited in claim 65, wherein the place is a parking lot that services the venue.

70. A program storage device, as recited in claim 65, wherein the place is a remote stadium. 40

71. A program storage device, as recited in claim 65, wherein the place is a convention hall.

72. A program storage device, as recited in claim 65, wherein the place is a restaurant.

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73. A program storage device, as recited in claim 65, wherein the place is a bar.

74. A program storage device, as recited in claim 64, wherein the place is a house.

75. A program storage device, as recited in claim 65, wherein the place is a restroom within the house.

76. A program storage device, as recited in claim 65, wherein the place is a living room within the house.

77. A program storage device, as recited in claim 65, wherein the place is a kitchen within the house.

78. A program storage device, as recited in claim 65, wherein the place is a bedroom within the house.

79. A program storage device, as recited in claim 64, further comprising the step of broadcasting the results to the audience members viewing the live entertainment event. 15

80. A program storage device, as recited in claim 64, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

81. A program storage device, as recited in claim 64, wherein the step of querying comprises use of a large screen display. 20

82. A program storage device, as recited in claim 64, wherein the step of querying comprises use of the interactive device.

83. A program storage device, as recited in claim 64, wherein the step of querying comprises use of a stadium monitor system. 25

84. A program storage device, as recited in claim 29, wherein the step of broadcasting the results comprises use of the large screen display. 30

85. A program storage device, as recited in claim 29, wherein the step of broadcasting the results comprises use of a stadium monitor system.

86. A program storage device, as recited in claim 29, wherein the step of broadcasting the results comprises use of the interactive device. 35

87. A program storage device, as recited in claim 64, wherein the live entertainment event is a sporting event.

88. A program storage device, as recited in claim 64, wherein the live entertainment event is conducted at a live entertainment venue. 40

89. A program storage device, as recited in claim 88, wherein the live entertainment venue is a theme park.

* * * * *

EXHIBIT 20



US007792539B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 7,792,539 B2**
(45) **Date of Patent:** ***Sep. 7, 2010**

(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**

(58) **Field of Classification Search** 455/66.1,
455/90.3, 575.6, 517, 550, 414.1, 414.2,
455/414.3; 463/36-42; 725/9; 705/27, 37,
705/3

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See application file for complete search history.

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 673 days.

This patent is subject to a terminal dis-
claimer.

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LLC; Ernest D. Buff

(21) Appl. No.: **11/799,139**

(22) Filed: **May 1, 2007**

(65) **Prior Publication Data**

US 2007/0202900 A1 Aug. 30, 2007

Related U.S. Application Data

(63) Continuation-in-part of application No. 11/347,993,
filed on Feb. 6, 2006, now Pat. No. 7,263,378, which is
a continuation-in-part of application No. 11/300,208,
filed on Dec. 14, 2005, now Pat. No. 7,248,888, which
is a continuation-in-part of application No. 10/792,
170, filed on Mar. 3, 2004, now Pat. No. 6,996,413,
which is a continuation-in-part of application No.
10/378,582, filed on Mar. 5, 2003, now Pat. No. 6,760,
595, which is a continuation-in-part of application No.
09/854,267, filed on May 11, 2001, now Pat. No.
6,650,903, which is a continuation of application No.
09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,
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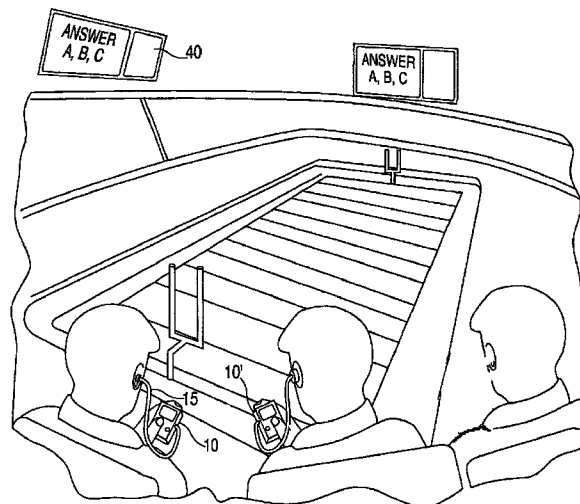
(51) **Int. Cl.**
H04B 7/00 (2006.01)

(52) **U.S. Cl.** **455/517; 455/575.5; 463/39;**
463/40

(57) **ABSTRACT**

A method and system provide interactive participation during
activity occurring at a college campus venue. Enjoyment for
a plurality of enrolled participants is enhanced. Participants
employ wireless interactive devices that present a promo-
tional message and include user input and output interfaces.
Participants are queried, and enter answers via the user input
interface. The promotional messages are preferably related to
businesses and other organizations associated with the col-
lege campus venue.

104 Claims, 3 Drawing Sheets



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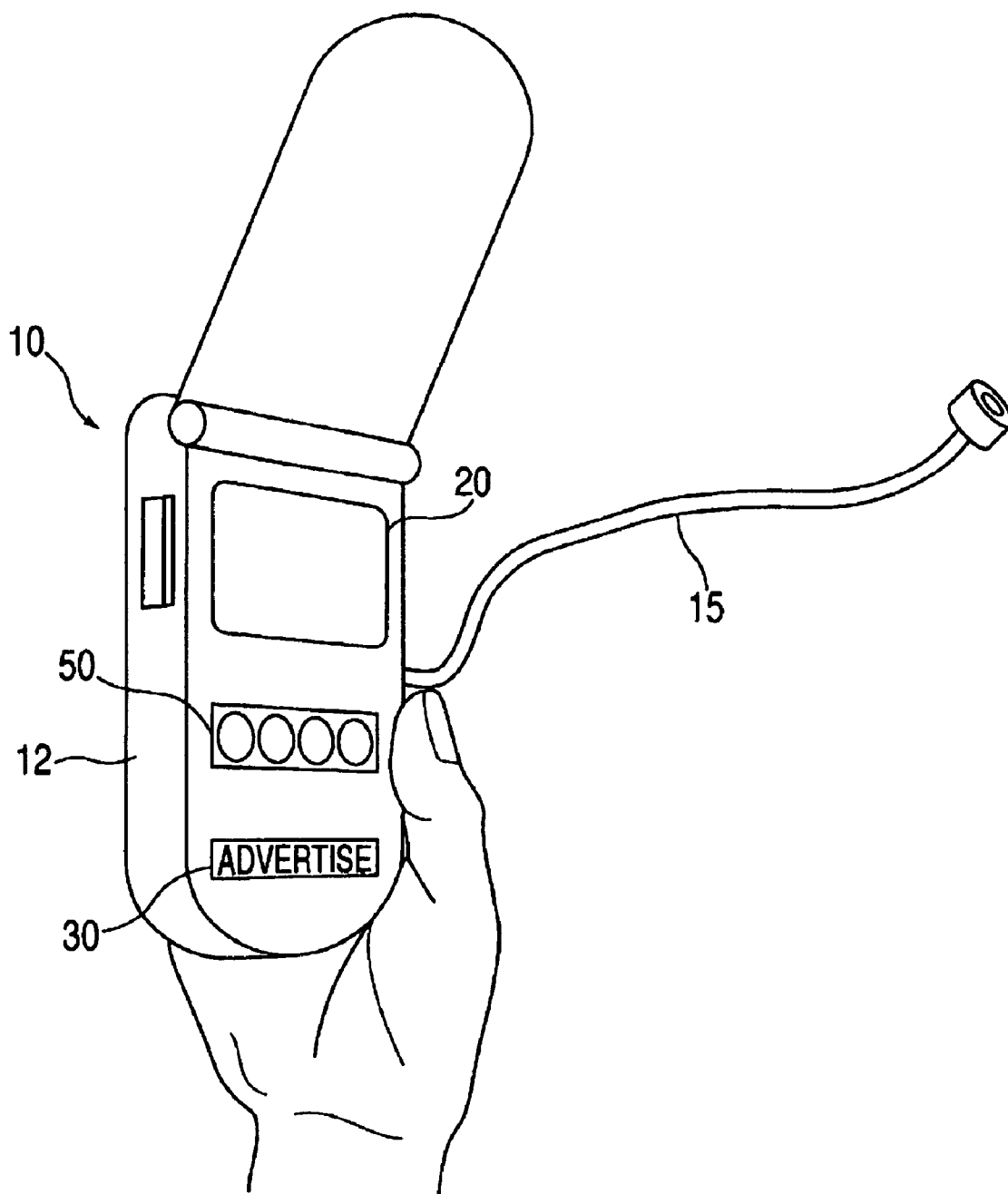


FIG. 1

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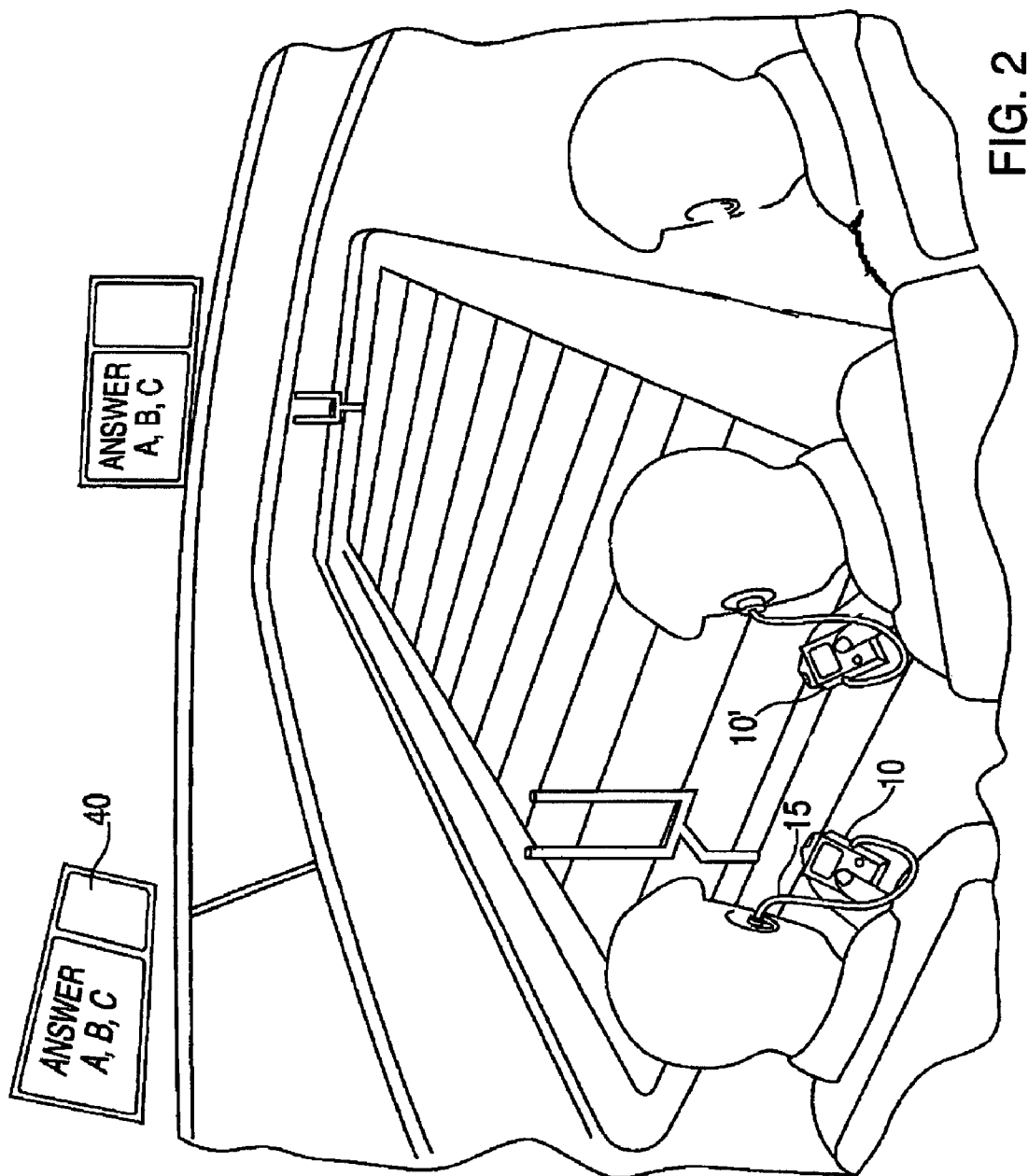
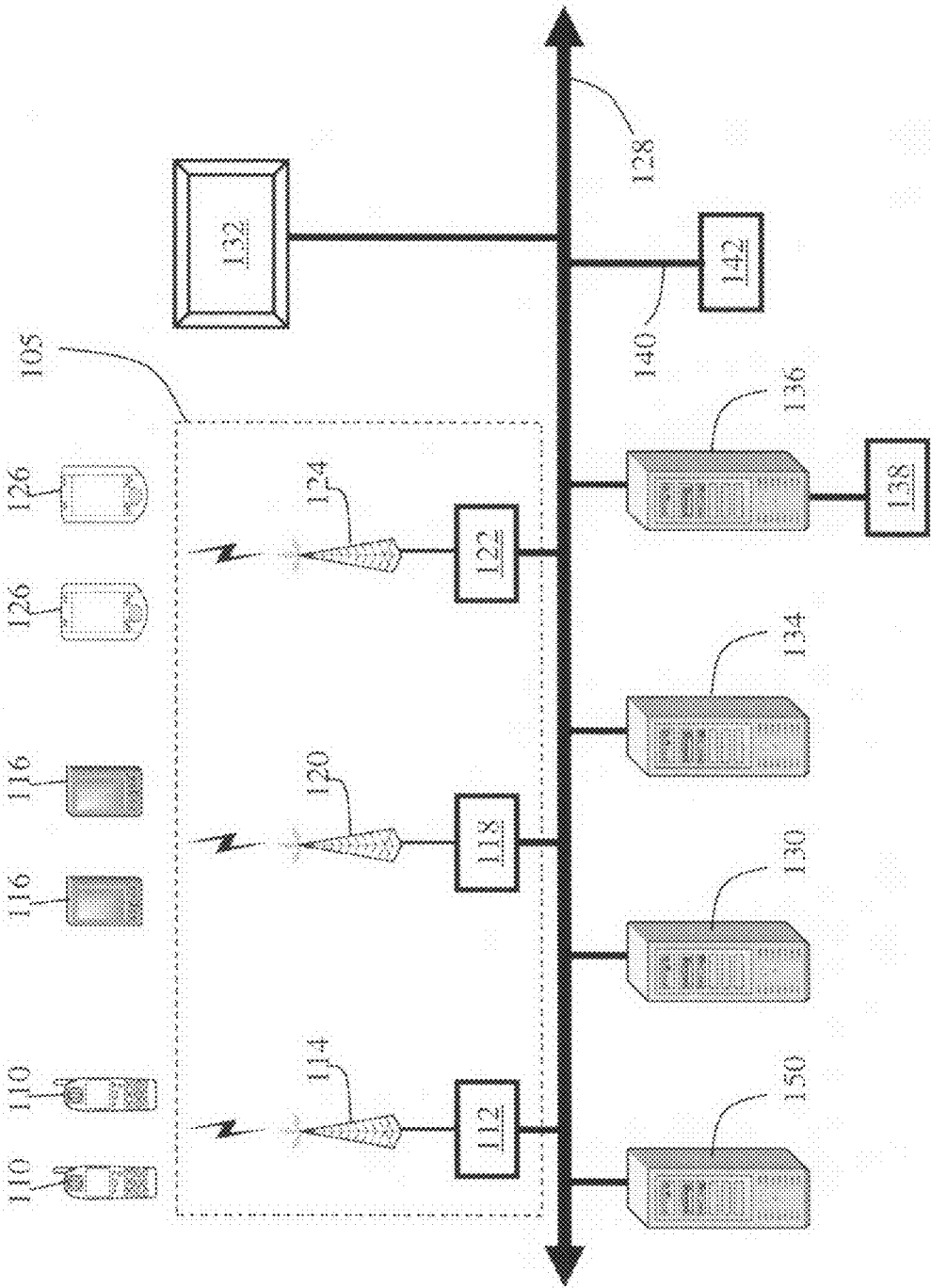


FIG. 3



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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation-in-part of U.S. patent application Ser. No. 11/347,993, filed Feb. 6, 2006 now U.S. Pat. No. 7,263,378, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 11/300,208, filed Dec. 14, 2005 now U.S. Pat. No. 7,248,888, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 10/792,170, filed Mar. 3, 2004 now U.S. Pat. No. 6,996,413, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 10/378,582, filed Mar. 5, 2003, now U.S. Pat. No. 6,760,595, issued Jul. 6, 2004, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, issued Aug. 18, 2003, which, in turn, is a continuation of U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398, issued Aug. 13, 2002. Each of application Ser. Nos. 11/347,993, 11/300,208, 10/792,170, 10/378,582, 09/854,267, and 09/656,096 is incorporated herein in the entirety by reference thereto.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a system and method for interactive participation during activity occurring at a college campus venue attended by a plurality of persons; and more particularly, to a system and method by which persons at a college campus venue become enrolled and are afforded various opportunities to receive promotions and answer queries using wireless interactive devices, thereby enhancing the college campus experience and enjoyment.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live entertainment events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON®. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live entertainment events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity

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from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members ordinarily spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, any particular seat location affords its occupant only a single view of a playing field. In addition, some locations fail to offer an unobstructed view of the entire field. On other occasions a technical ruling made by a game official is not fully explained to those in attendance but is extensively analyzed by television and/or radio announcers, often with one or more instant replays of the event in question. Fans commonly resort to carrying conventional portable radio and TV receivers to games, whereby they obtain game commentary, instant replays, and the like to complement what they directly observe or obtain from the stadium's own announcers, scoreboards, and video displays.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

The foregoing considerations apply to additional forms of entertainment that are associated with specific and defined programmatic content having an identifiable duration, such as the content provided by an athletic event, a musical or theatrical performance, or the like. Similar enhancements are also sought in connection with forms of entertainment that do not entail specific programmatic content. For example, persons patronize museums, casinos, shopping malls, theme parks, agricultural fairs or similar expositions, trade shows, conventions, or the like recognize entertainment value, whether or not such situations and activities include specific programmatic content having a generally defined duration as part or all of their experience.

Persons present on a college or university campus also experience such entertainment as well as other campus related activities. Such persons would benefit from an ability to interact with other persons attending the college campus. The entertainment provided in such situations and activities may or may not include specific programmatic content having a generally defined duration as part or all of the activity.

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Accordingly, there remains a need for a method and system that provides interaction that heightens the enjoyment experienced by participants in any of the aforementioned forms of entertainment.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of persons during activity occurring at a college campus venue by providing interactivity. In a preferred embodiment of the invention, there is provided a method for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons. Each enrolled participant employs a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface, (iii) output messages to a user output interface; and (iv) transmit the unique signature. The method comprises the steps of: (i) enrolling at least some of the persons as enrolled participants, each being equipped with one of the wireless interactive devices; (ii) providing a wireless communication system adapted to transmit and receive messages with the interactive device; (iii) querying the enrolled participants to respond to at least one query with an answer entered through the user input interface and transmitted by the interactive device; and (iv) receiving answers entered by the enrolled participants. By having and using such a wireless interactive device, enrolled participants can receive promotional messages, which preferably provide announcements and solicitations that enhance the college campus experience. The interactive device is preferably a wireless, hand held device, having user input and output interfaces. The user input interface preferably comprises at least one member selected from the group consisting of a keypad, selection buttons, a touch screen, a rotatable dial, cursor keys, a pointing device (e.g. a mouse or trackball), and a voice recognition system. The user output interface preferably comprises a visible display for alphanumeric, textual, or graphic images and audio output means such as a speaker or earphone. Preferably the device is a cellular telephone, two-way pager, or wireless personal digital assistant (PDA) or pocket PC. It is further preferred that the device be Internet enabled, and that the wireless communication system employ the Internet in the bidirectional communication of data. Alternatively, the interactive device may be a special-purpose device incorporating at least the features needed for the practice of the present method. Communication protocols other than the Internet may alternatively be employed to provide the desired interactive communication. The device is easily transported, permitting the participant to carry and use it readily throughout attendance in the venue.

In an aspect of the invention, contests and polls may be conducted. Preferably these forms of querying are related to merchants operating in or around the college campus venue and to goods and services they provide. Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the participant selects from a list of promptings and/or possible answers. Prizes may be offered. The degree of attention and receptivity accorded to promotional messages and advertisements received by patrons using an interactive device during activity occurring at a college campus in accordance with the present method is beneficially increased. The combination of the atmosphere of the college campus venue and the immediacy of the interactive content frequently heightens the degree of interest of participants for proffered advertisements over that accorded by those who receive advertising in more traditional forms.

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Practice of the present method affords particular advantages for purveyors of services that are offered to individuals or small, predefined groups of persons either at appointed times or when service becomes available, such as restaurants, health clubs, hairstylists, and the like. More specifically, the method provides for dissemination of promotional messages that include: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of the desired service. The solicitation may further include dissemination of a menu of available services, such as food and beverages, whereby an order can be entered and prepared for later delivery. Such arrangements are preferably made by exchange of text or other similar message forms.

Another aspect of the present invention provides a system for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons. Each enrolled participant employs a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit the unique signature. The system comprises: (i) means for enrolling at least some of the persons as enrolled participants, each being equipped with one of the wireless interactive devices; (ii) a wireless communication means for transmitting and receiving messages with the interactive device; (iii) means for querying the enrolled participants to respond to at least one query with an answer entered through the user input interface and transmitted by the interactive device; and (iv) means for receiving answers entered by the enrolled participants. Preferably, the wireless communications system is provided by a cellular telephone network.

The camaraderie and school spirit is enhanced between students, faculty, and visitors alike because of their ability to interact with one another. Students may further utilize the interactive wireless device to view a live class lecture on the output interface. In one embodiment, queries may comprise an interactive dating service. In other embodiments the queries generated by the method and system may relate to student government issues. Vendors of goods and services may disseminate promotional messages and coupons to registered users. For example, fast food establishments serving the college campus may disseminate coupons or award prizes according to the responses to the queries directed to the enrolled participants.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

FIG. 1 is a perspective view of a hand held device used in connection with the interactive participation system of the present invention;

FIG. 2 is a schematic diagram of participants at a spectator event utilizing the interactive participation system of the present invention; and

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FIG. 3 is a schematic diagram of a system of the invention for enhancing participant enjoyment and interaction.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

One representative embodiment of the present invention provides a method of enabling interactive participation at a live spectator event by a plurality of participants employing a wireless interactive device. The interactive participation enhances the enjoyment of such participants at a live event transpiring at any form of entertainment venue. Preferably, the method involves enrollment of persons desiring to partake of the features and benefits conveyed by participation.

Some forms of entertainment are associated with specific and defined programmatic content having an identifiable duration, such as the content provided by an athletic event, a musical or theatrical performance, or the like. On the other hand, entertainment may be provided to individuals as a consequence of patronizing a museum, casino, cruise ship, shopping mall, theme park, agricultural fair or similar exposition, a trade show, convention, or the like. Persons present on a college or university campus also experience such entertainment as well as other campus related activities. The entertainment provided in such situations and activities may or may not include specific programmatic content having a generally defined duration as part or all of the activity. In some instances, the totality of entertainment activities has a duration bounded by opening and closing hours of a museum, mall, park, fairgrounds, convention hall, or the like. In other forms of entertainment, e.g. at casinos, activity often continues around the clock. It is to be understood that the present invention relates to entertainment forms either with or without the foregoing specific programmatic content and defined duration. For entertainment forms without defined duration, the present activity is bounded, with respect to any particular individual, by that individual's active or passive participation in any form of entertainment, instruction, promotion, activity, or other conduct of the ordinarily associated with the particular type of venue.

For example, at a trade show, an attendee is normally provided with commercial or technical information or promotion of goods or services offered by exhibitors at the show. It is to be understood that dissemination of such information or promotion constitutes entertainment within the meaning of that term as used herein, and the duration of the event is understood to be defined generally by the attendee's presence at the venue. Similarly, a casino is often associated with a venue that includes a gaming area in which persons engage in any of a variety of games of chance or gambling, as well as other appurtenant areas providing restaurants, shops selling various forms of merchandise, theaters or auditoriums (e.g., providing live stage entertainment or activity), public gathering areas, and hotel accommodations.

The principles of the present system and method also find application in venues of yet other types. For example, shopping is perceived by many as being a form of entertainment, in that such persons find diversion, amusement, or otherwise agreeable occupation in such activity, transcending the mere utilitarian function of acquiring essential or desirable articles. Such activity is especially enjoyed in the context of large shopping venues, such as large, freestanding stores known as "big box" stores, and large department stores offering many diverse types of merchandise and services. Shopping malls or centers in which are situated a plurality of individual stores are venues even more attractive to some. These facilities may comprise one or more large indoor buildings including plural

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stores with interior access, or a plurality of buildings connected by exterior or interior walkways. Either indoor or outdoor entrances may provide access to individual stores.

Large malls now frequently provide a multitude of different experiences beyond retail sales of goods, including, for example, restaurants, movie theaters, auditoriums, or public spaces for artistic or cultural events. At least one large shopping center even houses an indoor theme park with various amusement rides and the like. Ordinarily, shoppers are free to come and go at a shopping venue without admission charge or control. However, certain entertainment events or other functions or amusements therein may require an admission fee.

The principles of the present system and method also find application in venues of yet other types. For example, attendance at a college campus is perceived by many as being a form of entertainment, in that such persons are offered the chance to participate in and/or spectate a large variety of campus activities, including educational offerings, research projects, student government, Greek life, dining, varsity athletic games, intramural sports, student clubs, theatre performances, on campus dating, social functions, dormitory life, and the like.

It is also to be understood that the activities and events for which the present method is suited, whether or not they involve events having defined programmatic content, typically extend beyond narrowly defined temporal and spatial limits. For example, live entertainment events often occur in a building with defined entrances or an indoor or outdoor area demarcated by fences or other barriers with defined points of entry that may comprise gates, turnstiles, or the like. Many live events take place in a stadium, arena, or auditorium having defined spectator seat locations, e.g. seats uniquely denoted by section, row, and seat numbers or the like. In addition to the actual performance area (such as a playing field or concert stage) and the appointed spectator area, event facilities ordinarily have auxiliary or appurtenant public areas associated therewith. Such areas provide facilities and services that are desirably or essentially associated with the live entertainment event. The auxiliary areas are generally adjacent or in close proximity, and may include non-exclusively: ticket windows; passageways; rest rooms; clubs; restaurants; concession stands selling food and beverages; lounges; overflow areas with audio and/or video links to the principal event area; shops selling souvenirs, promotional merchandise, novelties, or related items; and service facilities such as parking lots and stations for public transportation; and the like. For example, patrons at an athletic event frequently engage in social activity in a venue's parking lot before or after the event, often including the consumption of food and beverage, a practice commonly known as "tailgating." Such activity bears a clear thematic relationship to the athletic event itself, since there is ordinarily extensive conversation about the event, the competing teams or players, or the like. Similar activity is common in connection with concerts and other live spectator events as well.

Similar considerations also apply to shopping activity at a shopping venue. As discussed above, the shopping experience comprehends more than just retail purchase of specific items and the particular spaces devoted thereto. Rather, shopping centers also typically have auxiliary or appurtenant public areas, providing facilities such as restaurants, movie theaters, recreational areas, auditoriums, hotels, or public spaces for artistic or cultural events, as well as parking lots.

Similar considerations further apply to activities that take place at a college campus venue. As discussed above, the college campus experience offers a multitude of activities to participate in and/or spectate. College campuses typically

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have a large number of buildings, fields, and “quads” where students, faculty, and visitors interact in person. Most college campuses further have a stadium, basketball courts, tennis courts, football fields, baseball fields, theatres, exercise facilities, tracks, lecture halls, office buildings, dormitories, dining facilities, parking lots, and the like. Further, most college campuses have a defined border that defines the boundary of the campus, wherein most buildings and other facilities are located within the campus boundary—this being known as “on campus”. In one embodiment of the present invention, the term “college campus” means within the campus boundary. In another embodiment of the present invention, the term “college campus” means that the activity is related to the college or university, but does not necessarily have to be within the campus boundary. For example, some colleges offer “off campus” housing. Other colleges utilize an “off campus” facility for some of their varsity athletic teams games (i.e. Seton Hall University hosts its varsity home basketball games at the Continental Airlines Arena in East Rutherford, N.J.). Other examples exist for “off campus” activities that are directly related to the college.

It is thus to be understood that the term “venue” as used herein with respect to the activities and events discussed above, whether or not they include specific programmatic content and defined duration, extends to a penumbra defined by its relationship to such activities and events. Participation in the present interactive method may be afforded to persons in the primary area of the activity as well as in any of these penumbral locations, all of which are to be understood as collectively included in the term “venue” as used herein. Such auxiliary areas of a venue as parking lots, lawns, walkways, and the like are to be understood as included as well. It is also to be understood that the present interactive participation may involve activity at any location within the venue.

Referring now to FIG. 1, there is shown one form of a hand held, interactive device **10** adapted for use in connection with the interactive participation system of the present invention. In one embodiment, device **10** is employed by audience members at a sporting event as shown in FIG. 2. The device is adapted to communicate bi-directionally with a wireless communications system operative at the event, to provide information to a user, and to accept entry of information through a user input interface for transmission to the wireless communications system. In a preferred embodiment the device **10** includes a housing **12** with an electronic display opening. An electronic display (visual display) **20** providing one form of user output interface is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display may be of many types, e.g. employing liquid crystal or electroluminescent displays. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a wireless communications system connected to a central processor (not shown) in a manner known in the art. The electronic display is adapted to output information received from the local microprocessor, such as graphic or textual messages that ask the participant to answer a question, provide an opinion, or convey other important information. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display. The visual display may be limited to presenting alphanumeric messages, but more preferably is capable of displaying graphical, pictorial, or streaming video input at various scan rates, preferably in real time. Keypad **50** accepts user input for transmission to the central processor.

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In another aspect of the invention, the interactive device is optionally used by participants to receive audible or video programming, which may be transmitted in the commercial AM or FM broadcast band or at any of a number of predetermined frequencies in the RF, VHF, UHF, or microwave frequency bands. The transmission may be analog or digital. Programming may also be transmitted optically, such as by modulation of an infrared emitting source located in the venue and received by a complementary photoreceptive element in the wireless interactive device and suitably processed for intelligible output. Optionally, the device also comprises means for receiving and displaying video signals such as from ordinary broadcast television stations. Transmission of such program content may be done via conventional commercial broadcast stations or with low power transmitters intended only to cover the immediate event venue. Transmitters are optionally located either within the venue, in its environs, or in any other location that permits a sufficiently intense signal to be present in the venue. In a preferred embodiment device **10** incorporates circuitry to receive the aforementioned audio or video program content. The circuitry is adapted to receive the content and present it to the user. An earpiece **15** is preferably included to allow the user to listen to the audio content associated with the device without annoying others nearby. It is noted that other listening means could be employed such as earphones, speakers, or the like.

In other embodiments the aforesaid audio or video programming may be transmitted via any computer network to which the interactive device is connected, such as by streaming audio or video transmitted via the Internet, in accordance with presently employed protocols or other suitable protocols.

Such audio or video programming preferably comprises information or program content that is thematically pertinent to the event or venue or provides content otherwise useful to the participants. For example, on a university campus, such material might include news relating to the institution’s athletic teams or other cultural or intellectual events in the life of the university community. At a shopping mall, the content might include shopping promotions or announcements or coverage of other entertainment occurring on the premises. The content may include descriptions of the action at the event, related expert commentary or instant replays. The content optionally includes other information of interest to participants, such as news and traffic reports and weather conditions and forecasts. Furthermore, the audio or video programming may include dissemination of questions or other matter incident to contests and polls conducted in accordance with the invention.

It is contemplated that special purpose devices such as the aforementioned interactive device **10** optionally be made available to enable participation by persons who do not carry a conventional wireless device such as a cellular telephone, two-way pager, personal PC, or PDA. Units possessing the required wireless communications capability, electronic display, and user input and output interfaces are easily assembled using off the shelf components, such as transceivers, displays, keypads, and microprocessors, and other miscellaneous electronic components. These special devices would preferably be prepared for each event at one or more locations, having battery charging and menu programming capability, and transported to kiosks or otherwise made available near public entry points in the venue. The kiosks would each be either sales locations or rental contract stations to secure deposit and payment terms (cash, credit/debit card, etc.), for furnishing the special devices to persons desiring to participate prior to start of the event, and collection of rented

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special devices after conclusion of the individual's participation. Optionally, such a device is provided to at least selected participants without charge or as part of the price of admission or, alternatively, as an optional item rented or purchased by the participant, and preferably subsidized by the promotional messages.

In another aspect of the invention, and more preferably, general-purpose wireless devices such as those routinely possessed and used by members of the public, are used for the aforementioned interactive communication. Preferably the wireless devices are selected from the group consisting of wireless personal digital assistants (PDA) and Pocket PC's; two-way pagers; and cellular telephones. Such devices normally incorporate input means such as keypads, selection buttons, and touch screens, and video and audio output means such as display screens, speakers, and earphones. The devices typically include circuitry, such as a local microprocessor, adapted to convert wireless input into forms presented by the output means and to accept user-entered input that is converted for wireless output in a manner known in the art. Many of these devices are also Internet-enabled, that is to say, able to send and receive textual or graphic data in protocols which are commonly associated with Internet technology and able to be processed suitably by routers, servers, and other ancillary equipment used in Internet communication. Additionally, such devices frequently have the capability of sending and receiving electronic mail and Internet-based instant messages which may be transmitted worldwide over the Internet. Suitable PDA's include wireless units sold under the PALM™ tradename by Palm Computing and under the BLACKBERRY™ tradename by Research in Motion. Wireless Pocket PC's e.g. those sold by Hewlett Packard, Compaq, and Dell, are also suitable.

Known user-supplied wireless interactive devices are ordinarily equipped with either software or hardware features that provide a unique signature or identification of each device, e.g. the telephone number of a cellular telephone or the IP address of an Internet enabled device. The aforementioned special-purpose devices are also provided with unique identification. Both the special-purpose devices and the user-supplied general-purpose devices are adapted to transmit the unique signature for identification purposes.

The present method preferably employs at least one unique signature of each wireless interactive device, whereby a given participant's entries and responses may be individually attributed and tracked and the various interactive features described herein may be individually or collectively implemented. In addition, an electronic account is frequently associated with each user-supplied device for charges and credits. In some of the embodiments of the present invention, charges are levied for goods and services provided and transferred to the account associated with each device. Likewise, monetary credits, coupons, and the like can be disseminated either electronically to the account or by mail to an address associated with the account.

In addition, it is preferred that information establishing each participant's location within a venue also be associated with that user's device. The association can be effected in many ways. Preferably, a given user is provided during the enrollment process with one or more identifying indicia that can be entered using the user input interface of the device and included in the unique signature transmitted by the device. For example, participants may be provided with indicia distributed beforehand or upon a request that is entered through the wireless device, e.g. through wireless connectivity to the Internet. Indicia may be provided by regular mail, e-mail, telephone text messaging, by connecting with an appointed

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Internet site, or any other suitable means. The foregoing features by which users are individually identifiable also permit the various services offered selectively to qualified, appropriate, or interested participants or groups of participants.

Many of the wireless devices useful in connection with the present system, such as cellular telephones, now include localization circuitry. One form of such circuitry relies on global positioning system (GPS) technology. The device is thereby enabled to determine its geographical position quite accurately and transmit a position identification signal under appropriate circumstances. In an aspect of the invention, the present system includes location-receiving circuitry, such as that provided by a wireless service provider, capable of receiving position identification signals from a wireless device and thereby determining whether a particular wireless device is within a preselected, geographically delimited operational zone. For example, this functionality is optionally used to ascertain whether a given device is on the premises of a venue such as a shopping center, a university campus, or a theme park.

As there are many suitable alternatives on which to base an embodiment of the current invention which are known to those skilled in the art, the specific interactive device and wireless communications technology used, the specific multiple access communication protocol used, and the specific client/server hardware interface and protocol are not important to the method of the invention so long as they support the required functions. What is important is the method of this invention by which the customer is provided better service.

A number of currently used communications protocols suitably provide connectivity between several of the aforementioned user devices and a wireless communications system. One presently preferred protocol is provided by the commercial cellular telephone network. Many wireless or cellular telephones currently operative with these networks incorporate provisions for sending and receiving textual messages and graphic images, and for exchanging electronic mail through the Internet. Improved capabilities for wirelessly transmitting streaming video at various scan rates are rapidly being developed and are useful in the practice of the present method. Current cellular telephone systems provide various forms of instant messaging capability also useful in transmitting and receiving the queries, advertisements, and the like used in the present method. Messaging in accordance with the Short Message Service (SMS) protocol is presently preferred, but other forms of messaging are also contemplated within the present invention.

The bidirectional wireless communications used in the practice of the present method and system are preferably implemented using at least one transmission form selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions. Ultra-wide band and spread-spectrum transmission are especially promising technologies for the broadcasting of messages and transmission of participants' responses. The multiplexing and frequency shifting inherently available in such technologies improve immunity to noise and interference and the security of data in transmission. For example, suitable techniques which may be used in the implementation of the present system are practiced in connection with cellular telephone systems, including such currently preferred methods as frequency division multiple access (FDMA), time division multiple access (TDMA), code division multiple access (CDMA), and global system for mobile communications (GSM) protocols, as well as other protocols including those defined by the International Telecommunications Union. Especially preferred are implemen-

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tations of the present method compliant with interoperability standards promulgated by the Open Mobile Alliance and made available at the website www.openmobile.com and by the WAP Forum at the website www.wapforum.com. It is also preferred that access to the interactive features of the present invention be provided to customers of more than one provider of wireless services, including providers of cellular telephone service or of wireless access for PDAs and Pocket PCs. In some embodiments, such access for participants employing wireless interactive devices served by a plurality of providers is provided by a wireless communications system wherein network connection of plural providers permits needed exchange of information, e.g. via the Internet. In other embodiments, the wireless communication system comprises one or more authorized providers of wireless service. Participants employing wireless interactive devices served by another wireless service provider are furnished an access code, such as a telephone number and optionally further codes, or the like, permitting them to connect to one of said authorized providers, whereby they are enabled to participate in the present method, being afforded access to the various features described herein.

Another preferred communications protocol is specified by the several levels of IEEE Standard No. 802.11, published by the Institute of Electrical and Electronics Engineers, and which are incorporated herein in the entirety by reference thereto. Standards in the IEEE 802.11 class (which are also known commonly as "Wi-Fi") specify a local area network system for wirelessly connecting individual devices such as PDA's and Pocket PC's to a local server through which the devices may communicate wirelessly, e.g. through a local intranet or the global Internet. Other wireless protocols that may be used to establish connectivity are also known, such as the Bluetooth Standard, published by the Bluetooth SIG and available through the website www.bluetooth.com, and incorporated herein in the entirety by reference thereto.

It will be understood by one skilled in the relevant art that different transmission modes and frequencies may be used by the wireless communications system for the transmissions to and from the wireless interactive device and that multiple transmission modes and frequencies may be used to accommodate interactive devices of different types simultaneously operated in the present system.

In one aspect, the present method includes the step of providing a wireless communication system adapted to transmit and receive messages with the wireless interactive devices used by the participants. The wireless system is used to disseminate promotional messages to the participants through the user output interface of the wireless device.

The wireless device employed in the present method preferably presents promotional messages or advertising from sponsors and/or advertisers. Monetary compensation for the presentation of such advertising material is optionally used to defray or underwrite the costs associated with practice of the present invention. Messages can be in the form of indicia located (e.g., physically imprinted) on devices loaned, rented, sold, or otherwise provided to participants. FIG. 1. Additionally, the messages can be visually displayed by the device or can be aurally communicated through the same. The messages can be in the form of preprogrammed or stored aural or visual messages or recordings that are played, e.g. when the device is powered up or down, or at regular or random intervals during usage of the device. Preferably, messages are transmitted by the wireless communication system and presented live during the entertainment event via open band lines. Visual advertising may be presented in discrete segments interspersed with program content or it may be incor-

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porated substantially continuously into the overall image being presented at a given time, such as a banner ad.

In still another aspect of the present method, demographic information or characteristics of the users of wireless interactive devices are gathered and used in various ways. Users may be asked to enter information, such as their age or gender. Other demographic information may be related to the music type preferences or food type preferences of the users. The computer system preferences of the users, as between a PC and a Mac, may also be gathered. Alternatively, such information may already be extant and available in databases, such as records of cellular telephone customers. Such information may be used to select which of a plurality of advertisements or queries are most appropriate and likely to be of interest to a given user. The individual addressability of devices such as cellular telephones and wireless PDA's permits individually selected commercials to be presented to particular individuals or groups. Demographic information may also be used to tailor questions and limit contest participation to selected users. For example, in some embodiments participation in all or part of a survey or competition may be offered only to a demographically restricted group. At a casino or other entertainment venue within which entry to certain areas and participation in certain events, e.g. gambling and consumption of alcoholic beverages, is restricted by age, promotional messages may be limited accordingly. In addition, customer survey information is considered more useful by advertisers if the answers are categorized by the demographics of the respondents. All of these functions are easily implemented in the practice of the present method.

In an aspect of the invention, interactive participation using the present method and system is limited to participants who have been enrolled. Such enrollment may be effected by any suitable process carried out either before or during the entertainment event or activity. Optionally, enrollment requires monetary consideration from the person becoming an enrolled participant. Preferably, a participant enrolls by entering suitable information using the wireless interactive device. In some implementations, prospective participants may enroll by a method including a request for enrollment transmitted by telephone, e-mail, interactive registration through an Internet site, regular postal mail, in person at a kiosk or a dedicated terminal provided at the venue. Optionally, the patron is provided with an activation code to be entered using the user input interface of the wireless device. Alternatively, persons having a suitable wireless device with localization circuitry may be identified as being present in the venue and thereafter enrolled automatically or be prompted to accept enrollment, e.g. by exchange of text messages. In other embodiments, participation is limited to persons who have enrolled and who are also identified by wireless device localization circuitry as being physically present at the event venue. Optionally, the participant status is terminated when the individual is no longer present in the venue, but may be restored automatically upon return to the venue. The enrollment may also be for a predetermined time period and expire thereafter. The dissemination of information, such as promotional messages and queries for the interactive contests afforded by the present method, may be limited to participants actually present at the venue.

In yet a further aspect, the present method may be used to conduct contests, games, and opinion polls of many types. Generally stated, such activities comprise the steps of: posing one or more questions to participants; prompting the participants to enter an answer to the question using their wireless interactive devices; and processing the results. The questions may be posed using any communication form by which they

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can be effectively conveyed to participants. Preferably the questions are in a form that may be answered by selection of one of a relatively limited number of alternatives, such as a multiple-choice question or a rating scale. Answers may be entered using the user input interface. Preferably, the results are reported to at least the participants, but they may also be furnished to sponsors, advertisers, or other interested parties.

Contests, games, and polls may include many different types of questions. Concertgoers might be asked to select a favorite song or artist from a number of choices presented or to choose songs to be performed during the concert. Civic events and political rallies might evoke questions about preferences of candidates for public office, opinions about civic issues, legislation, and public policies of many sorts. Participants may also be asked various market research questions, such as their rating of goods or services, e.g. for quality, popularity, ease of use, or other desired characteristics. Other types of questions of more general nature and interest may also be used. Answers preferably are accepted during a limited, preselected time interval.

Preferably, participants in the contests, games, or polls, or respondents to other queries conducted in accordance with the invention, are awarded prizes or other forms of consideration as inducement to participate. For example, one or more participants who correctly answer contest questions or participate in games or opinion polls may be awarded a cash prize or credit. These considerations may be utilized to enhance the enjoyment of participants, to encourage further participation in the querying and contest aspects of the present method, and to promote the sale of goods and services. Such prizes include goods and services of any form or discounts toward the purchase thereof. One preferred form for the delivery of such a credit is an electronic coupon that can be redeemed for any form of consideration, including merchandise, services, and/or other prizes available at the venue. Alternatively, coupons redeemable for items or services at no cost or at a reduced cost may be delivered. For example, a message may be transmitted to a user's wireless device bearing a unique authentication code that could be verified by a vendor, such as through a cash register electronically linked to the central processor or order processing server, or by a telephone call to a preselected verification number. In other implementations, a graphic image such as a bar code or other like pattern indicative of the coupon is delivered for display on the user's wireless device and read by a suitable reader at a cash register. In still another alternative, a printed coupon can be physically delivered to the participant based on the location of the user's interactive device by means of communication with the transceiver located therein or by other indication means, or delivered to a remote location by actual physical delivery by mail or the like, or by any form of electronic delivery. The coupons may be redeemed with vendors such as fast food delivery restaurants, the on campus book store, or other local businesses serving the college campus. Either points or direct monetary credits could also be entered electronically into an account associated with a user, such as a user's credit or debit card, an account for the user's wireless device or Internet service provider, or by other like means known in ordinary commerce. For example, a user collecting sufficient points may redeem them for goods, services, or money. In a preferred embodiment, credits or coupons are transmitted to the winning participant in conjunction with billings for such an account of the participant.

Implementations of the present method and system particularly suited for college campuses and related types of venue preferably include dissemination of promotional messages soliciting participants to patronize businesses within

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the venue, such as the college book store. Preferably, the promotional messages also convey coupons or other discount offers.

Certain businesses such as restaurants, hairdressers, spas, physical exercise facilities, and the like, are commonly located within or in close proximity to college campuses. These businesses offer particular and specific services to individuals or small, predefined groups of acquainted persons, either at appointed times or when service (i.e. specific equipment or service persons) becomes available. Practice of the present method is especially beneficial for these enterprises. In an aspect of the present method, promotional messages from these businesses solicit enrolled persons to make a reservation for a desired future service and request notification to be made thereafter through the wireless interactive device, such as by receipt of a cellular telephone call or text message, of the availability of the service. For example, a restaurant might notify a patron that a table has become available; a gymnasium might notify a patron that desired exercise machines or a personal trainer was available. The service may also comprise a defined service task, such as repair of shoes or other wearing apparel, an appliance, or a motor vehicle, with the notification of the patron indicating completion of the service task and the availability of the item for pick-up. In these and related situations, students and faculty are afforded a more pleasant college campus experience and a more productive use of free time enjoying other activities or accomplishing other needful tasks instead of non-productively waiting in lines.

In a further embodiment, the solicitation and querying for services is optionally used also for ordering. For example, a restaurant might solicit business by providing its food and beverage menu by transmission to the participant's wireless interactive device. A hierarchical arrangement of a known sort including submenus may be used in situations wherein more items are available than can be accommodated within the confines of output displays of extant interactive devices. An interested user could then select desired items by navigating using the input interface through the menus to select and order one or more items for purchase, either to be consumed at the restaurant or prepared for take-out. The user is notified when the order is ready or a table is available using his/her wireless interactive device. As hierarchical menu systems have become ubiquitous with the advent of automated teller machines and windowed graphical user interfaces on modern personal computer operating systems, the concept and the method of their use are familiar to many persons and will not be further described here.

Preferably, monetary consideration for purchased items is provided by electronic transfer of funds between bank accounts or by charges billed to a user, such as to a user's conventional debit or credit card or wireless service provider account. Consummation of transactions using other forms of payment known for electronic processing may also be used and are to be considered within the scope of the method of the invention. In one embodiment, the present system is connected to an electronic financial network of a type known in the art. Transfer of funds from the network provides monetary consideration to the provider for the goods and services received by the ordering participant.

Alternatively, any mechanism for effecting electronic payment known in the relevant art is used. As is well understood by those skilled in the art, even the limited hardware display and processing capacity of present cellular telephones, PDA's, and pagers is sufficient to accommodate the aforementioned menu and ordering method. However, as time moves on, much higher text densities and graphics resolution

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will likely become commonplace in such devices and allow ever-increasing functionality to be provided and used in the method of this invention.

In addition, other services are optionally offered, such as restaurant, lodging and transportation reservations, biographical and recording data for athletes, concert artists, and other performers, future schedules of events, and myriad other information. This information can be conveyed visually, audibly, or via a combination of both media forms. The offerings presented through the wireless interactive device may be complemented by messages simultaneously displayed on video displays, monitors, or the like to enhance their ability to garner the participants' attention.

In an implementation, the present method also comprises querying the participants to respond with answers entered through the user input interface of the wireless device and transmitted therefrom using the wireless communication system. The answers received are transferred to a central processor for processing into results. It will be recognized that the accumulation of results may be done in the central processor or in one or more distributed receiving servers networked in data communication with the central processor by techniques well known in the computer art, such as by use of a local area network communicating over wire, wireless, or fiber optic communication links. Preferably, a stored computer program operative in either form of server accumulates and stores the incoming answers, at least temporarily, as participant data. The results of processing the participant data are also preferably stored, at least temporarily. At a suitable time, such as after the expiration of an announced deadline for participants to enter and transmit their responses to queries, the processed results are then announced to the participants. Optionally prizes are awarded to participants who have entered an answer.

It will be understood that all of the aforementioned computing functions can be carried out by one or more general-purpose computer processors located either within the event venue or its environs, or at a remote location linked by any suitable data communications link using cable, fiber-optic, wireless, or other comparable transmission. The computing functions may be carried out by a single central processor, by linked distributed processors, or a combination thereof.

Queries can be promulgated to the participants in many ways, including notice given by public address system announcements, visual displays such as video monitors of any size, or the like visible to the participants, or by messages such as aural, textual, or graphic messages transmitted to the interactive units and then output to the participant using the user output interface. In some implementations questions may be printed in event programs, flyers, newspapers, or the like. Optionally the queries are included in content provided by Internet portal sites to which participants may connect. Questions may also be included in audio or video announcements, or in other program content broadcast to the interactive units. Preferably, the questions are promulgated using at least one display visible to the participants. More preferably, the visible display comprises large-scale displays and/or monitors provided in the venue. After assimilation and processing of participant responses, announcement of results may be given to the participants by similar means, or by another form of public dissemination, such as an Internet posting.

In one embodiment, a display visible to a sizable number of participants, such as large screen display 40, as depicted in FIG. 2, is used both for promulgating queries to participants and for announcing results. Any one or more large display devices capable of displaying a video, graphic, or alphanumeric image to a large number of participants may be used, a

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JUMBOTRON® display being one suitable and preferred type. Alternatively, the display visible to the participants comprises plural video monitors such as CRT displays, plasma screens, or the like, preferably dispersed throughout the venue.

The questions and results are optionally displayed on these monitors. A user input interface, such as keypad 50 on device 10, allows an enrolled participant to enter a response to queries. Examples of simple user input interfaces include a keypad, selection buttons, a touch screen, a rotatable dial, a pointing device such as a mouse or trackball, and a voice recognition system, but any other user interface by which the required input can be effected could be incorporated in the practice of the invention. A voice recognition system advantageously facilitates the use of the present system by visually impaired persons. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

In FIG. 2 there is depicted the practice of an embodiment of the invention. At least some of the spectators at an athletic event occurring in a large, outdoor stadium employ an interactive device 10 and 10'. Although FIG. 2 depicts the practice of the present method in a football stadium, it will be understood that the present invention may also be practiced at venues of other types. It will be understood that the interactive device may be an item provided by the participant such as a cellular phone, or a wireless PDA or Pocket PC. Alternatively, suitable general- or special-purpose devices are made available at the spectator venue for purchase or rent or are given away without charge. In still other embodiments, the present system is operative both with user-provided devices and devices made available at the venue. The present inventor contemplates that only a portion of the persons present in a venue may choose to participate, either by using a suitable general-purpose interactive device they furnish or by obtaining a specialized unit at the venue. FIG. 2 further depicts the users entering answers to a query using keypads available on their respective interactive devices and the display of answers on a large display board 40. In addition to displaying results of the audience querying or contest, the material displayed on board 40 or dispersed video monitors optionally also includes promotional messages or advertising. For example, a given contest question might be sponsored by a business entity in return for including advertising for the entity's products or services during the querying and announcing associated with that contest.

Optionally, the responses of the participants are sent to a central processor (not shown) having a computer program stored and operative therein that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device 10 or a remotely located large screen display 40. FIGS. 1 and 2. The processed information could be a compilation or tabulation of similar responses, as either a number or a percentage of total responses, a graphical representation in a bar chart, pie chart or the like, or a combined graphical and numerical representation of the data. The processing further may include categorization of participants' responses according to demographic characteristics, which might include the age or gender of the participant.

In addition to prizes that can be won by participating in the contests and polls described above, a number of other incentives are optionally offered to attendees to induce them to participate in the interactive aspects of the present invention. In one aspect, access to a chat room and instant messaging are provided to some or all the enrolled participants. Participants may be enrolled by any suitable process, as delineated here-

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inabove. Messages may be exchanged interactively among the participants using any suitable protocol, such as cellular telephone text messaging and known systems used for instant messaging between Internet enabled personal computers and Internet-enabled wireless telephones, PCs, and PDAs. Optionally, enrolled participants are offered the chance to receive one or more newsworthy instant messages from a message sponsor. In some embodiments, the chat room and instant message features are provided at no cost, while in others, a fee might be charged by the offering entity for the services.

Yet another aspect of the invention allows participants to interactively participate in auctions, which may be of any type commonly known, including conventional auctions wherein items are sold to the lowest bidder; Dutch auctions, in which one or more items are offered at a fixed price to the first bidder or preselected maximum number of bidders; a reverse auction, in which the price of an item is lowered in response to a large number of bids received; and other forms. The goods or services offered in such auctions may include any goods or services of interest to the participants. The auctions are conducted by disseminating a description of the goods or services offered to the participants through one or more of the modes discussed hereinabove for the dissemination of the contest queries of the invention. Participants enter their bids or related responses by using the user input interface of their wireless interactive devices. Such auctions conducted within a venue in accordance with the invention beneficially evoke a high level of interest due to the level of enthusiasm and excitement typically evident in such an environment.

Preferably, the opportunity to participate in the various interactive features of the present method and system, along with eligibility for the various prizes and other incentives, are offered to substantially all the persons at the venue. However, participation in some or all features may be limited to some subset of the persons physically present at the event.

FIG. 3 depicts one implementation of the system 100 of the invention. A wireless communications system 105 provides service to cellular telephones, wireless PDA's, and Pocket PC's. Wireless interactive devices used with the system are a plurality of cellular telephones 110 and served by cellular telephone provider 112 through signals transmitted and received at antenna 114. Wireless PDA's 116 are served by wireless PDA service provider 118 through signals transmitted and received at antenna 120. A wireless local area network 122 transmitting signals in accordance with one of the levels of IEEE Standard 802.11 from antenna 124 serves wireless Pocket PC's 126. Each of cellular telephone provider 112, wireless PDA service provider 118, and wireless local area network 122 communicates through the Internet 128.

Enrollment server 150 is used to receive messages transmitted from interactive devices 110, 116, and 126 or otherwise requesting enrollment. Promotional message server 130 selects promotional messages which are transmitted via the Internet to wireless communications system 105, and broadcast to interactive devices 110, 116, and 126. Promotional messages are also transmitted to a large video display 132, which includes a controller operative to receive digital information, e.g. information received via the Internet, and convert it into corresponding textual, graphic, or video displays for presentation. Central processor 134 provides queries displayed on display 132. Answers to such queries are entered on the user input interfaces of interactive devices 110, 116, and 126 and received by distributed receiving servers (not shown) maintained by each of cellular telephone provider 112, wireless PDA service provider 118, and wireless local area network 122. The distributed receiving servers accumulate the

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answers and transfer them by Internet to central processor 134 for processing into results, which are then communicated and displayed by display 132. Order processing server 136 receives orders for goods and services entered by participants using their wireless interactive devices and communicates those orders to one or more providers 138 of goods and services, such as food/beverage vendors. Connection 140 to electronic financial network 142 enables the electronic transmission to providers 138 of monetary consideration for the goods and services they furnish. Enrollment server 140 acts in concert with central processor 134 and promotional message server 130 in the selection of promotional messages and queries and the enrolled participants to whom such communications are sent.

It will be understood by those skilled in the relevant art that the functions of the plural servers alternatively may be shared among a smaller number of servers or may be accomplished by central processor 134. The plural servers also may be in data communications via the Internet or a local network implemented using connections by wire, wireless, or optical data transmission, in any way conventional in the art. Other networking protocols suitable for the interchange of digital information may also be used.

The following embodiments more particularly refer to the situation wherein the venue is a college campus. The persons utilizing the method and system of the present invention may include students, faculty, and/or visitors to the college campus. The students may reside on campus in dormitories, may reside in off campus housing, or may commute from a more distant home. Any student enrolled with the college will benefit from the interactive capabilities afforded by the present method and system. Further, the students utilizing the present system and method are not required to matriculate at the college, but instead may be visiting students from other universities. In a preferred embodiment, the present method and system provides an interactive environment that is specifically unique to each particular college that implements its usage.

The present method and system is especially advantageous for those students who do not live on campus, because it allows these students to keep informed of the on campus activities and interact with other students and faculty from remote locations via the wireless interactive device. For example, in one embodiment of the present invention, students may view class lectures live on the user output interface of the wireless interactive device from remote locations and can interact with the professor and other students physically located at the class by responding to queries related to the class lecture. In another preferred feature of the present system and method, the querying comprises an interactive dating service of the type known in the art. Such dating service may include profiles of singles who are seeking out dates with other singles. In another aspect of the present method and system, a similar service is provided to users that would enable students to locate new friends or communicate with existing friends. Such communication may be in the form of instant messaging, chat rooms, or text messages within the network of registered users employing the wireless interactive device.

Each college could administer and regulate the permitted uses of the wireless interactive system of the present invention. Preferably, users must register by enrolling as participants. Each participant has a unique signature associated with his wireless interactive device. Preferably, the unique signature is the cellular phone number for the wireless interactive device. Student groups may utilize the present method and system by disseminating information related to on campus

activities, as well as student government issues—such as voting for student government positions.

Preferably, demographic information is collected from each person during the enrollment process to become a registered user. Such demographic information may include the music type preferences or the food type preferences of the user, as well as the computer system preferences of the enrolled participant as between a PC and a Mac. This demographic information may be utilized by licensed vendors in order to more effectively tailor the distribution of promotional messages, queries, and coupons related to a variety of goods and services. In another embodiment, a single wireless service provider is the exclusive provider of the wireless interactive device utilized by the enrolled participants. In one embodiment, the wireless interactive devices are distributed to all incoming students at the beginning of the school year and are included as part of the cost of the tuition. It is further to be understood that the meaning of the term “college campus” as used herein refers to any of the following: a two year college, a four year college or university, a vocational school, a graduate school, and the like. Further, the scope of the invention may extend to high schools and other institutions besides colleges.

In another aspect of the present method and system, the college officials can utilize the wireless communication system to transmit urgent messages to persons having the wireless interactive device. Such messages may include any one of the following: severe weather approaching, terrorism alerts, or any other dangerous threats which would jeopardize the safety of the students, faculty, and visitors attending the college campus.

Having thus described the invention in rather full detail, it will be understood that such detail need not be strictly adhered to, but that additional changes and modifications may suggest themselves to one skilled in the art, all falling within the scope of the invention as defined by the subjoined claims.

What is claimed is:

1. A method for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system appointed to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said wireless interactive device further comprises localization circuitry appointed to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal; and

wherein said enrolling step is effected automatically for persons attending said college campus venue and possessing a said wireless interactive device, upon detection of said transmitted location signal indicative of a physical location within said college campus venue.

2. A method as recited by claim 1, further comprising the step of disseminating at least one promotional message to said enrolled participants.

3. A method as recited by claim 2, wherein said promotional message is displayed on said user output interface.

4. A method as recited by claim 2, wherein said promotional message is disseminated for monetary consideration from an advertiser.

5. A method as recited by claim 1, wherein said querying is directed only to enrolled participants located within said college campus venue.

6. A method as recited by claim 1, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

7. A method as recited by claim 1, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being appointed to accept requests for enrollment of said persons as said enrolled participants.

8. A method as recited by claim 1, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

9. A method as recited by claim 1, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

10. A method as recited by claim 1, wherein said enrolling expires after a predetermined time period.

11. A method as recited by claim 1, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

12. A method as recited by claim 1, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

13. A method as recited by claim 1, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

14. A method as recited by claim 13, wherein said incentive comprises conveying to said participant at least one of goods, services, or coupons redeemable for at least part of the price of goods or services.

15. A method as recited by claim 13, wherein said incentive comprises electronic transfer of consideration to said enrolled participant.

16. A method as recited by claim 1, further comprising the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface.

17. A method as recited by claim 1, wherein said querying is limited to a portion of said enrolled participants.

18. A method as recited by claim 1, wherein said querying step is accomplished by at least one display visible to said participants.

19. A method as recited by claim 18, wherein said display comprises a large-scale video display.

20. A method as recited by claim 1, wherein said querying step is accomplished by a notice audible to said enrolled participants.

21. A method as recited by claim 1, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

22. A method as recited by claim 1, wherein said interactive device is a member selected from the group consisting of

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cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

23. A method as recited by claim 1, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

24. A method as recited by claim 1, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

25. A method as recited by claim 1, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

26. A method as recited by claim 1, wherein said querying is related to a class lecture.

27. A method as recited by claim 26, wherein said class lecture is displayed on said user output interface from a remote location.

28. A method as recited by claim 1, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

29. A system for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, each of the participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the system comprising:

means for enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

a wireless communication means for transmitting and receiving messages with said interactive device;

means for querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

means for receiving answers entered by said enrolled participants;

wherein said querying means comprises a querying server in data communication with said wireless communications system, said querying server providing said at least one query from a plurality of queries stored in said querying server and sending said query to said enrolled participant's said wireless interactive device through said wireless communications system, said querying server employing demographic characteristics of said enrolled participant in selecting said query.

30. A system as recited by claim 29, wherein said wireless communications means comprises at least one wireless system operated by a wireless service provider.

31. A system as recited by claim 29, wherein said query is displayed on said user output interface.

32. A system as recited by claim 29, wherein said querying means comprises at least one display visible to said enrolled participants and said query is displayed thereon.

33. A system as recited by claim 32, wherein said visible display comprises a plurality of video monitors dispersed throughout said venue.

34. A system as recited by claim 32, wherein said visible display comprises a large screen display visible to the enrolled participants in said venue.

35. A system as recited by claim 29, further comprising means for disseminating at least one promotional message to said enrolled participants through said user output interface of said interactive device.

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36. A system as recited by claim 29, wherein said disseminating means comprises a promotional message server in data communication with said wireless communications system, said promotional message server providing said at least one promotional message from a plurality of messages stored in said promotional message server and sending said promotional message to said wireless interactive device through said wireless communications system.

37. A system as recited by claim 29, further comprising at least one prize appointed to be awarded to at least one of said enrolled participants.

38. A system as recited by claim 29, wherein said wireless interactive device is a member selected from the group consisting of cellular telephones, wireless personal digital assistants, wireless pocket PC's, and two-way pagers, said member being provided wireless access by said wireless service provider.

39. A system as recited by claim 29, wherein said wireless interactive device is Internet enabled and communicates therewith.

40. A system as recited by claim 29, wherein said wireless interactive device incorporates circuitry for receiving broadcast informational items and said system further comprises a broadcasting system broadcasting said informational items appointed to be received by said wireless interactive device.

41. A system as recited by claim 29, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

42. A system as recited by claim 29, wherein said wireless interactive device further comprises localization circuitry and transmits its position obtained from said localization circuitry.

43. A system as recited by claim 29, wherein said enrolling means comprises an enrollment server in data communication with said wireless communications system and said querying means, said enrollment server receiving and consuming requests for enrollment as enrolled participants transmitted by one or more of said persons and communicating said enrollments to said querying means.

44. A system as recited by claim 43, said enrolling means further comprising at least one kiosk or terminal in said shopping venue for receiving said requests for enrollment.

45. A system as recited by claim 29, wherein said querying is related to a class lecture.

46. A system as recited by claim 45, wherein said class lecture is displayed on said user output interface from a remote location.

47. A system as recited by claim 29, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

48. A method for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

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providing a wireless communication system appointed to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device;

receiving answers entered by said enrolled participants; and

awarding a prize to at least one of said participants who has entered an answer in response to said querying.

49. A method as recited by claim 48, wherein said prize is delivered to said enrolled participant.

50. A method as recited by claim 48, wherein said prize is transferred electronically to said enrolled participant.

51. A method for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system appointed to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device;

receiving answers entered by said enrolled participants; relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface; and

said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

52. A method for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system appointed to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said promotional messages include: (i) a solicitation for enrolled persons to make a reservation for pro-

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vision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

53. A method as recited by claim 52, wherein said solicitation prompts said enrolled person to select and order items comprised in said desired service.

54. A system for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, each of the participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the system comprising:

means for enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

a wireless communication means for transmitting and receiving messages with said interactive device;

means for querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

means for receiving answers entered by said enrolled participants;

wherein said disseminating means comprises a promotional message server in data communication with said wireless communications system, said promotional message server providing said at least one promotional message from a plurality of messages stored in said promotional message server and sending said promotional message to said wireless interactive device through said wireless communications system, and

wherein said promotional message server employs demographic characteristics of said enrolled participant in selecting said promotional message for said enrolled participant.

55. A system as recited by claim 54, wherein said demographic characteristics are related to the music type preferences of said enrolled participant.

56. A system as recited by claim 54, wherein said demographic characteristics are related to the food type preferences of said enrolled participant.

57. A system as recited by claim 54, wherein said demographic characteristics are related to the computer system preferences of said enrolled participant as between a PC and Mac.

58. A method for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system appointed to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

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receiving answers entered by said enrolled participants; wherein said wireless interactive device further comprises localization circuitry appointed to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for whom said transmitted location signal is indicative of a physical location within said college campus venue.

59. A method as recited by claim 58, further comprising the step of disseminating at least one promotional message to said enrolled participants.

60. A method as recited by claim 59, wherein said promotional message is displayed on said user output interface.

61. A method as recited by claim 59, wherein said promotional message is disseminated for monetary consideration from an advertiser.

62. A method as recited by claim 58, wherein said querying is directed only to enrolled participants located within said college campus venue.

63. A method as recited by claim 58, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

64. A method as recited by claim 58, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being appointed to accept requests for enrollment of said persons as said enrolled participants.

65. A method as recited by claim 58, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

66. A method as recited by claim 58, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

67. A method as recited by claim 58, wherein said enrolling expires after a predetermined time period.

68. A method as recited by claim 58, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

69. A method as recited by claim 58, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

70. A method as recited by claim 58, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

71. A method as recited by claim 70, wherein said incentive comprises conveying to said participant at least one of goods, services, or coupons redeemable for at least part of the price of goods or services.

72. A method as recited by claim 70, wherein said incentive comprises electronic transfer of consideration to said enrolled participant.

73. A method as recited by claim 58, further comprising the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface.

74. A method as recited by claim 58, wherein said querying is limited to a portion of said enrolled participants.

75. A method as recited by claim 58, wherein said querying step is accomplished by at least one display visible to said participants.

76. A method as recited by claim 75, wherein said display comprises a large-scale video display.

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77. A method as recited by claim 58, wherein said querying step is accomplished by a notice audible to said enrolled participants.

78. A method as recited by claim 58, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

79. A method as recited by claim 58, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

80. A method as recited by claim 58, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

81. A method as recited by claim 58, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

82. A method as recited by claim 58, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

83. A method as recited by claim 58, wherein said querying is related to a class lecture.

84. A method as recited by claim 83, wherein said class lecture is displayed on said user output interface from a remote location.

85. A method as recited by claim 58, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

86. A system for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, each of the participants employing a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the system comprising:

means for enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

a wireless communication means for transmitting and receiving messages with said interactive device;

means for querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

means for receiving answers entered by said enrolled participants;

wherein said disseminating means comprises a promotional message server in data communication with said wireless communications system, said promotional message server providing said at least one promotional message from a plurality of messages stored in said promotional message server and sending said promotional message to said wireless interactive device through said wireless communications system.

87. A system as recited by claim 86, wherein said wireless communications means comprises at least one wireless system operated by a wireless service provider.

88. A system as recited by claim 86, wherein said query is displayed on said user output interface.

89. A system as recited by claim 86, wherein said querying means comprises at least one display visible to said enrolled participants and said query is displayed thereon.

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90. A system as recited by claim 89, wherein said visible display comprises a plurality of video monitors dispersed throughout said venue.

91. A system as recited by claim 89, wherein said visible display comprises a large screen display visible to the enrolled participants in said venue.

92. A system as recited by claim 86, further comprising means for disseminating at least one promotional message to said enrolled participants through said user output interface of said interactive device.

93. A system as recited by claim 86, wherein said disseminating means comprises a promotional message server in data communication with said wireless communications system, said promotional message server providing said at least one promotional message from a plurality of messages stored in said promotional message server and sending said promotional message to said wireless interactive device through said wireless communications system.

94. A system as recited by claim 86, further comprising at least one prize appointed to be awarded to at least one of said enrolled participants.

95. A system as recited by claim 86, wherein said wireless interactive device is a member selected from the group consisting of cellular telephones, wireless personal digital assistants, wireless pocket PC's, and two-way pagers, said member being provided wireless access by said wireless service provider.

96. A system as recited by claim 86, wherein said wireless interactive device is Internet enabled and communicates therewith.

97. A system as recited by claim 86, wherein said wireless interactive device incorporates circuitry for receiving broad-

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cast informational items and said system further comprises a broadcasting system broadcasting said informational items appointed to be received by said wireless interactive device.

98. A system as recited by claim 86, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

99. A system as recited by claim 86, wherein said wireless interactive device further comprises localization circuitry and transmits its position obtained from said localization circuitry.

100. A system as recited by claim 86, wherein said enrolling means comprises an enrollment server in data communication with said wireless communications system and said querying means, said enrollment server receiving and consummating requests for enrollment as enrolled participants transmitted by one or more of said persons and communicating said enrollments to said querying means.

101. A system as recited by claim 100, said enrolling means further comprising at least one kiosk or terminal in said shopping venue for receiving said requests for enrollment.

102. A system as recited by claim 86, wherein said querying is related to a class lecture.

103. A system as recited by claim 102, wherein said class lecture is displayed on said user output interface from a remote location.

104. A system as recited by claim 86, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

* * * * *

EXHIBIT 21



US007797005B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 7,797,005 B2**
(45) **Date of Patent:** ***Sep. 14, 2010**

(54) **METHODS, SYSTEMS AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/456,524**

(22) Filed: **Jun. 18, 2009**

(65) **Prior Publication Data**

US 2009/0276292 A1 Nov. 5, 2009

Related U.S. Application Data

(63) Continuation-in-part of application No. 11/799,139, filed on May 1, 2007, which is a continuation-in-part of application No. 11/347,993, filed on Feb. 6, 2006, now Pat. No. 7,263,378, which is a continuation-in-part of application No. 11/300,208, filed on Dec. 14, 2005, now Pat. No. 7,248,888, which is a continuation-in-part of application No. 10/792,170, filed on Mar. 3, 2004, now Pat. No. 6,996,413, which is a continuation-in-part of application No. 10/378,582, filed on Mar. 5, 2003, now Pat. No. 6,760,595, which is a continuation-in-part of application No. 09/854,267, filed on May 11, 2001, now Pat. No. 6,650,903, which is a continuation of application No. 09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,398.

(51) **Int. Cl.**
H04B 7/00 (2006.01)

(52) **U.S. Cl.** **455/517; 455/575.6; 363/40**

(58) **Field of Classification Search** 455/66.1, 455/90.3, 575.6, 517, 550, 414.1, 414.2, 455/414.3; 463/36-42; 725/9; 705/27, 37, 705/3

See application file for complete search history.

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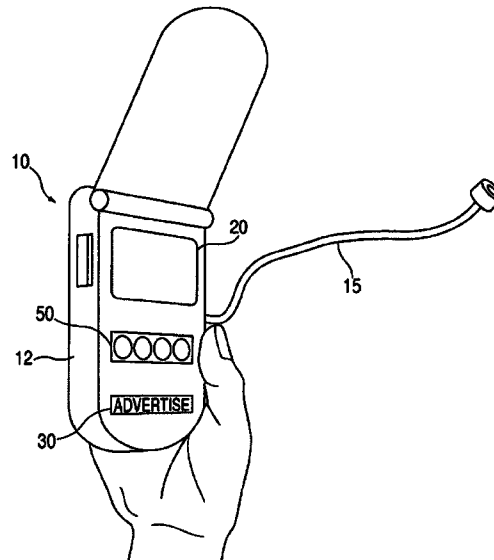
Primary Examiner—Jean A Gelin

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(57) **ABSTRACT**

A method and system provide interactive participation during activity occurring at a college campus venue. Enjoyment for a plurality of enrolled participants is enhanced. Participants employ wireless interactive devices that present a promotional message and include user input and output interfaces. Participants are queried, and enter answers via the user input interface. The promotional messages are preferably related to businesses and other organizations associated with the college campus venue.

302 Claims, 3 Drawing Sheets



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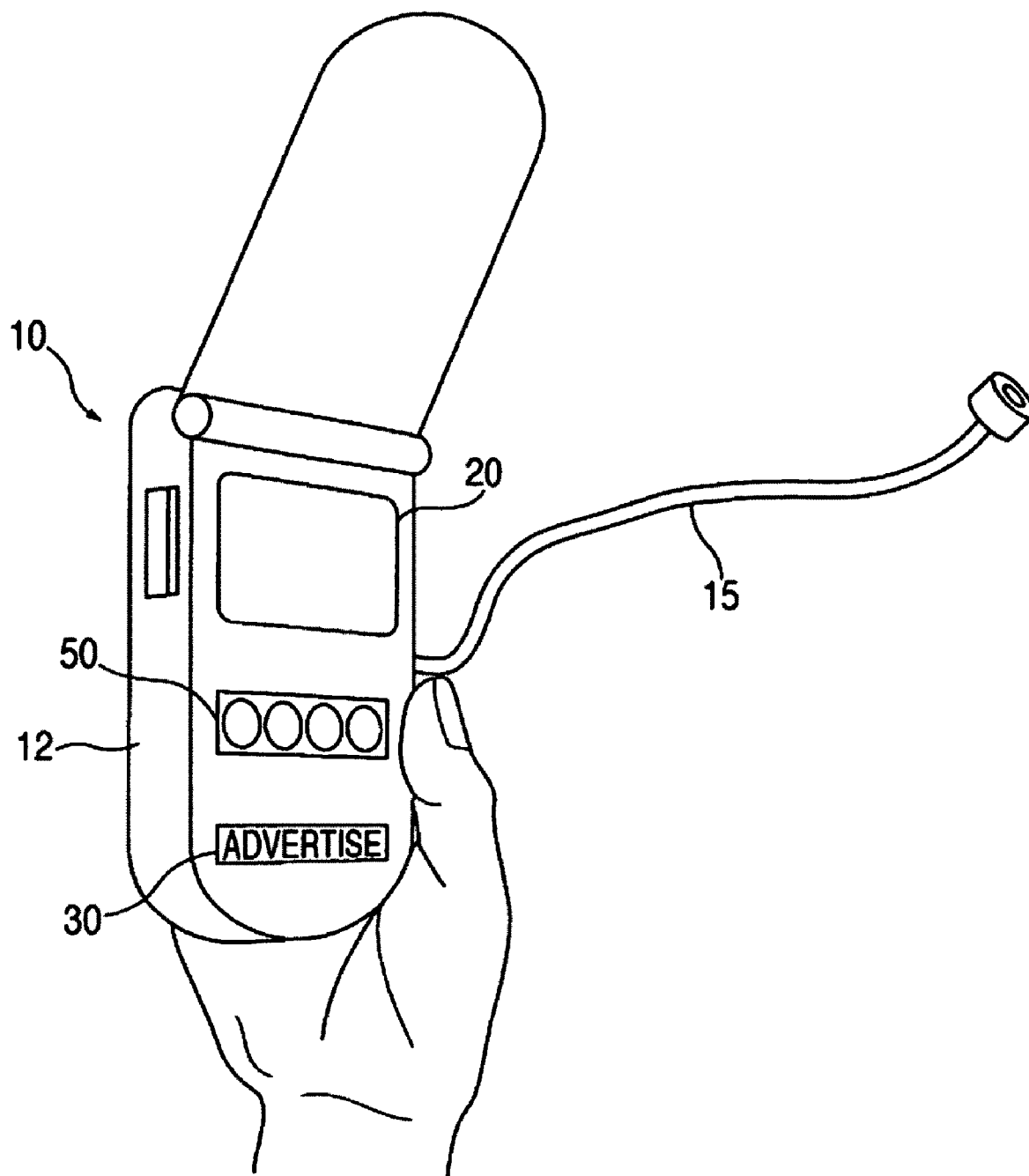


FIG. 1

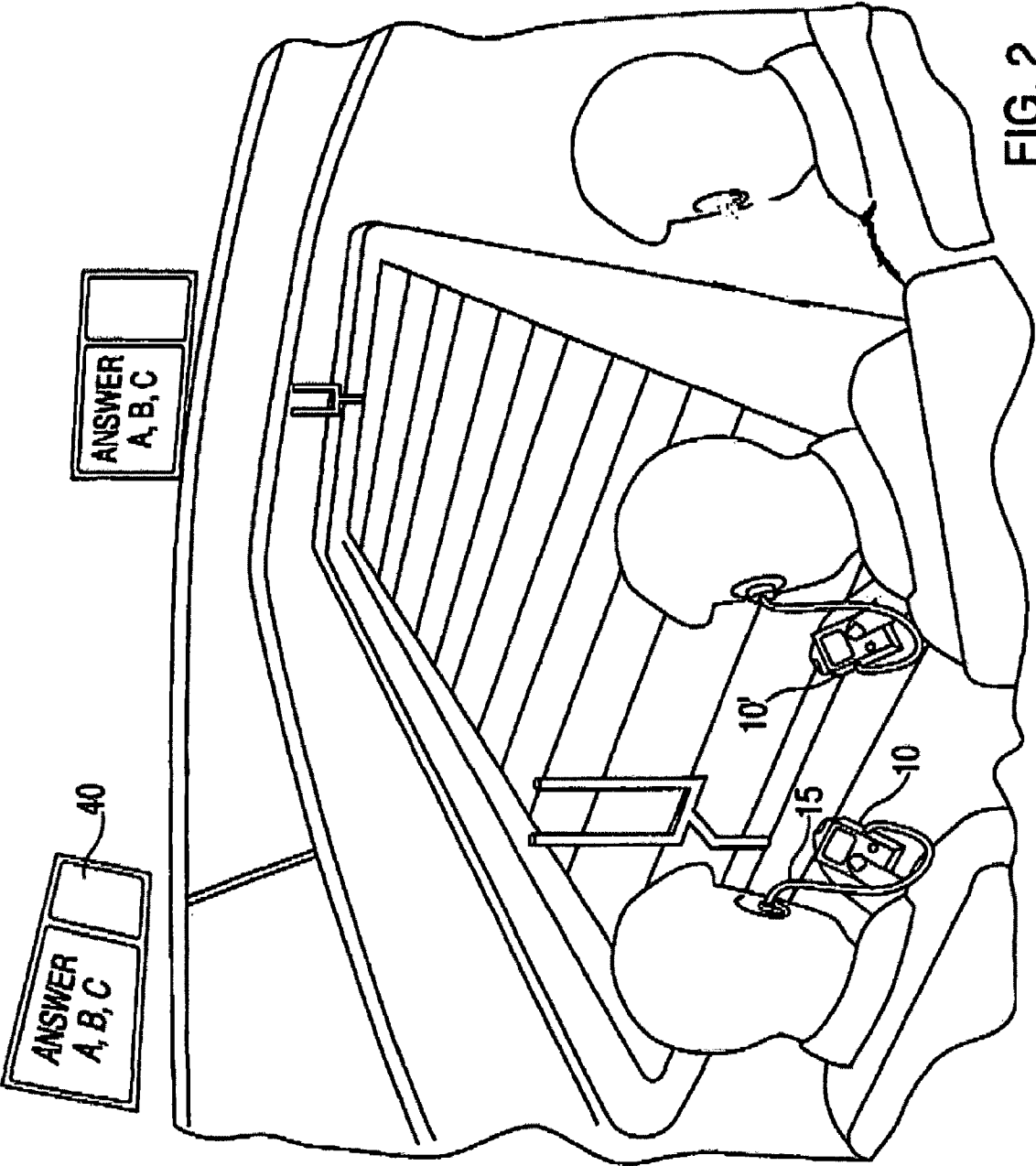
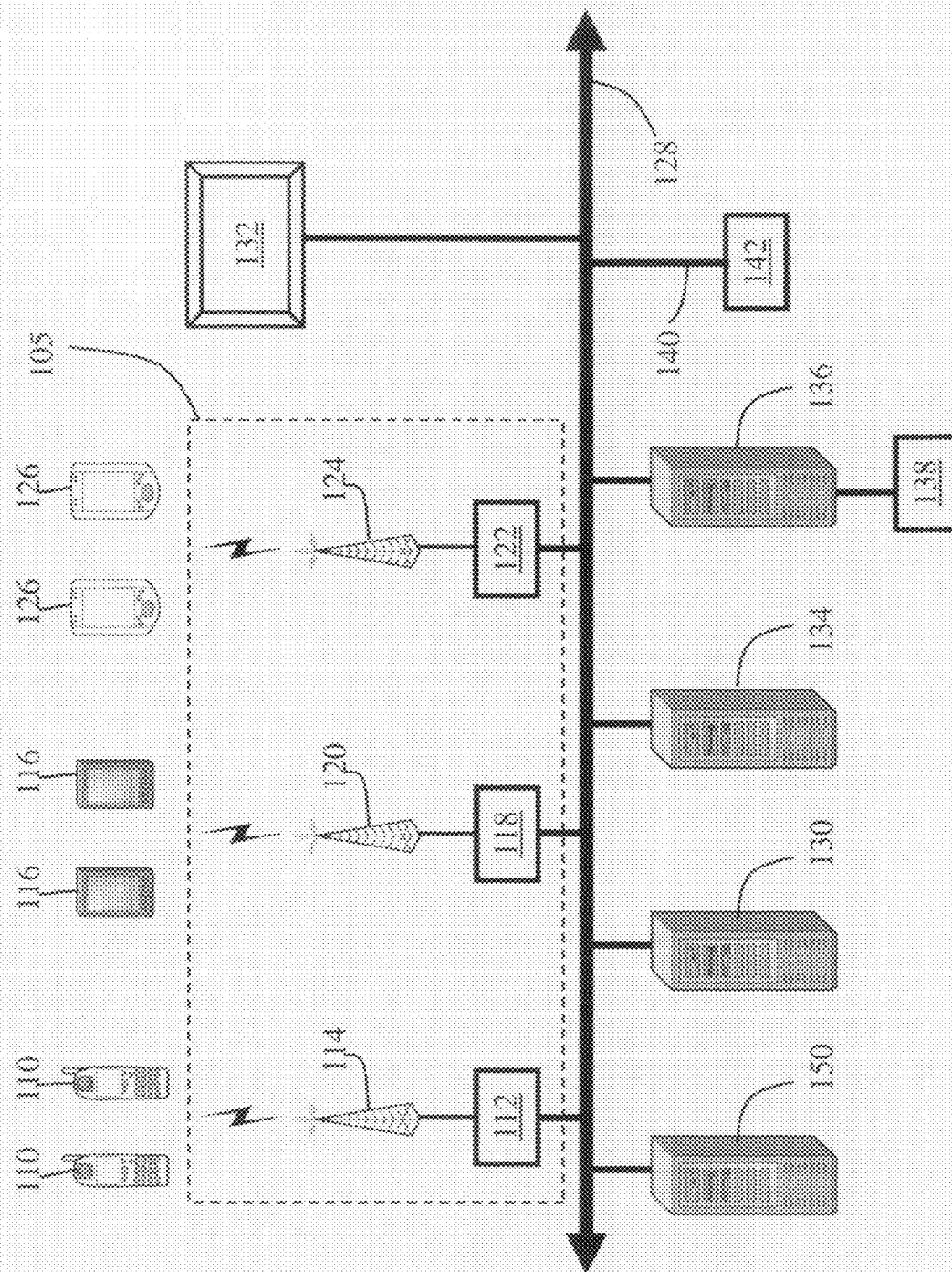


FIG. 3



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METHODS, SYSTEMS AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation-in-part of co-pending U.S. patent application Ser. No. 11/799,139, filed May 1, 2007 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 11/347,993, filed Feb. 6, 2006, now U.S. Pat. No. 7,263,378, issued Aug. 28, 2007 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 11/300,208, filed Dec. 14, 2005, now U.S. Pat. No. 7,248,888, issued Jul. 24, 2007 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 10/792,170, filed Mar. 3, 2004, now U.S. Pat. No. 6,996,413, issued Feb. 7, 2006 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 10/378,582, filed Mar. 5, 2003, now U.S. Pat. No. 6,760,595, issued Jul. 6, 2004 which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, issued Aug. 18, 2003 which, in turn, is a continuation of U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398, issued Aug. 13, 2002. Each of application Ser. Nos. 11/799,139, 11/347,993, 11/300,208, 10/792,170, 10/378,582, 09/854,267, and 09/656,096 is incorporated herein in the entirety by reference thereto.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a system and method for interactive participation during activity occurring at a college campus venue attended by a plurality of persons; and more particularly, to a system and method by which persons at a college campus venue become enrolled and are afforded various opportunities to receive promotions and answer queries using wireless interactive devices, thereby enhancing the college campus experience and enjoyment.

2. Description of Related Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live entertainment events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON®. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live entertainment events have come to expect background information and detailed analysis from viewing

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televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members ordinarily spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, any particular seat location affords its occupant only a single view of a playing field. In addition, some locations fail to offer an unobstructed view of the entire field. On other occasions a technical ruling made by a game official is not fully explained to those in attendance but is extensively analyzed by television and/or radio announcers, often with one or more instant replays of the event in question. Fans commonly resort to carrying conventional portable radio and TV receivers to games, whereby they obtain game commentary, instant replays, and the like to complement what they directly observe or obtain from the stadium's own announcers, scoreboards, and video displays.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

The foregoing considerations apply to additional forms of entertainment that are associated with specific and defined programmatic content having an identifiable duration, such as the content provided by an athletic event, a musical or theatrical performance, or the like. Similar enhancements are also sought in connection with forms of entertainment that do not entail specific programmatic content. For example, persons patronize museums, casinos, shopping malls, theme parks, agricultural fairs or similar expositions, trade shows, conventions, or the like recognize entertainment value, whether or not such situations and activities include specific programmatic content having a generally defined duration as part or all of their experience.

Persons present on a college or university campus also experience such entertainment as well as other campus related activities. Such persons would benefit from an ability to interact with other persons attending the college campus. The entertainment provided in such situations and activities

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may or may not include specific programmatic content having a generally defined duration as part or all of the activity.

Accordingly, there remains a need for a method and system that provides interaction that heightens the enjoyment experienced by participants in any of the aforementioned forms of entertainment.

SUMMARY OF THE INVENTION

The present invention relates to methods, systems and apparatus for enhancing the experience of persons during activity occurring at a college campus venue by providing interactivity. In a preferred embodiment of the invention, there is provided a method for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons. Each enrolled participant employs a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface, (iii) output messages to a user output interface; and (iv) transmit the unique signature. The method comprises the steps of: (i) enrolling at least some of the persons as enrolled participants, each being equipped with one of the wireless interactive devices; (ii) providing a wireless communication system adapted to transmit and receive messages with the interactive device; (iii) querying the enrolled participants to respond to at least one query with an answer entered through the user input interface and transmitted by the interactive device; and (iv) receiving answers entered by the enrolled participants. By having and using such a wireless interactive device, enrolled participants can receive promotional messages, which preferably provide announcements and solicitations that enhance the college campus experience. The interactive device is preferably a wireless, hand held device, having user input and output interfaces. It comprises a programs storage device that tangibly embodies the method steps that allow for the interaction with embodiments of applicants invention. The user input interface preferably, though not required, comprises at least one member selected from the group consisting of a keypad, selection buttons, a touch screen, a rotatable dial, cursor keys, a pointing device (e.g. a mouse or trackball), and a voice recognition system. The user output interface preferably comprises, though not required, a visible display for alphanumeric, textual, or graphic images and audio output means such as a speaker or earphone. Preferably, though not required, the device is a cellular telephone, two-way pager, or wireless personal digital assistant (PDA) or pocket PC. It is further preferred, though not required, that the device be Internet enabled, and that the wireless communication system employ the Internet in the bidirectional communication of data. Alternatively, the interactive device may be a special-purpose device incorporating at least the features needed for the practice of the present method. Communication protocols other than the Internet may alternatively be employed to provide the desired interactive communication. Such communication protocols can be specific protocols that allow for interaction with embodiments of applicant's invention. The communication protocols may also be combinations of one or more existing protocols that enable interaction with embodiments of the applicant's invention. The device can be easily transported, permitting the participant to carry and use it readily throughout attendance in the venue.

In an aspect of the invention, contests and polls may be conducted. Preferably these forms of querying are related to merchants operating in or around the college campus venue and to goods and services they provide. Using simple input

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devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the participant selects from a list of promptings and/or possible answers. Prizes may be offered. The degree of attention and receptivity accorded to promotional messages and advertisements received by patrons using an interactive device during activity occurring at a college campus in accordance with the present method is beneficially increased. The combination of the atmosphere of the college campus venue and the immediacy of the interactive content frequently heightens the degree of interest of participants for proffered advertisements over that accorded by those who receive advertising in more traditional forms.

Practice of the present method affords particular advantages for purveyors of services that are offered to individuals or small, predefined groups of persons either at appointed times or when service becomes available, such as restaurants, health clubs, hairstylists, and the like. More specifically, the method provides for dissemination of promotional messages that include: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of the desired service. The solicitation may further include dissemination of a menu of available services, such as food and beverages, whereby an order can be entered and prepared for later delivery. Such arrangements are preferably, though not required, made by exchange of text or other similar message forms.

Another aspect of the present invention provides systems for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons. Each enrolled participant employs a wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit the unique signature. The system comprises: (i) means for enrolling at least some of the persons as enrolled participants, each being equipped with one of the wireless interactive devices; (ii) a wireless communication means for transmitting and receiving messages with the interactive device; (iii) means for querying the enrolled participants to respond to at least one query with an answer entered through the user input interface and transmitted by the interactive device; and (iv) means for receiving answers entered by the enrolled participants. Preferably, though not required, the wireless communications system is provided by a cellular telephone network.

The camaraderie and school spirit is enhanced between students, faculty, and visitors alike because of their ability to interact with one another. Students may further utilize the interactive wireless device to view a live class lecture on the output interface. In one embodiment, queries may comprise an interactive dating service. In other embodiments the queries generated by the methods and systems may relate to student government issues. Vendors of goods and services may disseminate promotional messages and coupons to registered users. For example, fast food establishments serving the college campus may disseminate coupons or award prizes according to the responses to the queries directed to the enrolled participants.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein

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like reference numeral denote similar elements throughout the several views and in which:

FIG. 1 is a perspective view of a hand held device used in connection with the interactive participation system of the present invention;

FIG. 2 is a schematic diagram of participants at a spectator event utilizing the interactive participation system of the present invention; and

FIG. 3 is a schematic diagram of a system of the invention for enhancing participant enjoyment and interaction.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

It is to be understood that the present invention may be implemented in various forms of hardware, software, firmware, special purpose processors, or a combination thereof. In one embodiment, the present invention may be implemented in software as an application program tangibly embodied on a program storage device. The application program may be uploaded to, and executed by, a machine comprising any suitable architecture. The various processes and functions described herein may either be part of the micro instruction code or part of the application program (or a combination thereof) which is executed via the operating system. In addition, various other peripheral devices may be connected to the computer platform such as an additional data storage device and a printing device.

It is to be further understood that, because some of the constituent system components and method steps depicted in the accompanying figures may be implemented in software, the actual connections between the system components (or the process steps) may differ depending upon the manner in which the present invention is programmed. Given the teachings of the present invention provided herein, one of ordinary skill in the related art will be able to contemplate these and similar implementations or configurations of the present invention.

One representative embodiment of the present invention provides an exemplary infrastructure for a method, in accordance with the present invention, of enabling interactive participation at a live spectator event by a plurality of participants employing a wireless interactive device. The interactive participation enhances the enjoyment of such participants at a live event transpiring at any form of entertainment venue. Preferably, the method involves enrollment of persons desiring to partake of the features and benefits conveyed by participation.

Such enrollment can be accomplished using any number of ways known in the art, including html forms, SMS messaging, pen and paper forms, directly contact a representative either in person or via some communications medium.

Some forms of entertainment are associated with specific and defined programmatic content having an identifiable duration, such as the content provided by an athletic event, a musical or theatrical performance, or the like. On the other hand, entertainment may be provided to individuals as a consequence of patronizing a museum, casino, cruise ship, shopping mall, theme park, agricultural fair or similar exposition, a trade show, convention, or the like. Persons present on a college or university campus also experience such entertainment as well as other campus related activities. The entertainment provided in such situations and activities may or may not include specific programmatic content having a generally defined duration as part or all of the activity. In some instances, the totality of entertainment activities has a duration bounded by opening and closing hours of a museum,

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mall, park, fairgrounds, convention hall, or the like. In other forms of entertainment, e.g. at casinos, activity often continues around the clock. It is to be understood that the present invention relates to entertainment forms either with or without the foregoing specific programmatic content and defined duration. For entertainment forms without defined duration, the present activity is bounded, with respect to any particular individual, by that individual's active or passive participation in any form of entertainment, instruction, promotion, activity, or other conduct of the ordinarily associated with the particular type of venue.

For example, at a trade show, an attendee is normally provided with commercial or technical information or promotion of goods or services offered by exhibitors at the show. It is to be understood that dissemination of such information or promotion constitutes entertainment within the meaning of that term as used herein, and the duration of the event is understood to be defined generally by the attendee's presence at the venue. Similarly, a casino is often associated with a venue that includes a gaming area in which persons engage in any of a variety of games of chance or gambling, as well as other appurtenant areas providing restaurants, shops selling various forms of merchandise, theaters or auditoriums (e.g., providing live stage entertainment or activity), public gathering areas, and hotel accommodations.

The principles of the present systems and methods also find application in venues of yet other types. For example, shopping is perceived by many as being a form of entertainment, in that such persons find diversion, amusement, or otherwise agreeable occupation in such activity, transcending the mere utilitarian function of acquiring essential or desirable articles. Such activity is especially enjoyed in the context of large shopping venues, such as large, freestanding stores known as "big box" stores, and large department stores offering many diverse types of merchandise and services. Shopping malls or centers in which are situated a plurality of individual stores are venues even more attractive to some. These facilities may comprise one or more large indoor buildings including plural stores with interior access, or a plurality of buildings connected by exterior or interior walkways. Either indoor or outdoor entrances may provide access to individual stores.

Large malls now frequently provide a multitude of different experiences beyond retail sales of goods, including, for example, restaurants, movie theaters, auditoriums, or public spaces for artistic or cultural events. At least one large shopping center even houses an indoor theme park with various amusement rides and the like. Ordinarily, shoppers are free to come and go at a shopping venue without admission charge or control. However, certain entertainment events or other functions or amusements therein may require an admission fee.

The principles of the present systems and methods also find application in venues of yet other types. For example, attendance at a college campus is perceived by many as being a form of entertainment, in that such persons are offered the chance to participate in and/or spectate a large variety of campus activities, including educational offerings, research projects, student government, Greek life, dining, varsity athletic games, intramural sports, student clubs, theatre performances, on campus dating, social functions, dormitory life, and the like.

It is also to be understood that the activities and events for which the present methods and systems are suited, whether or not they involve events having defined programmatic content, typically extend beyond narrowly defined temporal and spatial limits. For example, live entertainment events often occur in a building with defined entrances or an indoor or outdoor area demarcated by fences or other barriers with defined

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points of entry that may comprise gates, turnstiles, or the like. Many live events take place in a stadium, arena, or auditorium having defined spectator seat locations, e.g. seats uniquely denoted by section, row, and seat numbers or the like. In addition to the actual performance area (such as a playing field or concert stage) and the appointed spectator area, event facilities ordinarily have auxiliary or appurtenant public areas associated therewith. Such areas provide facilities and services that are desirably or essentially associated with the live entertainment event. The auxiliary areas are generally adjacent or in close proximity, and may include non-exclusively: ticket windows; passageways; rest rooms; clubs; restaurants; concession stands selling food and beverages; lounges; overflow areas with audio and/or video links to the principal event area; shops selling souvenirs, promotional merchandise, novelties, or related items; and service facilities such as parking lots and stations for public transportation; and the like. For example, patrons at an athletic event frequently engage in social activity in a venue's parking lot before or after the event, often including the consumption of food and beverage, a practice commonly known as "tailgating." Such activity bears a clear thematic relationship to the athletic event itself, since there is ordinarily extensive conversation about the event, the competing teams or players, or the like. Similar activity is common in connection with concerts and other live spectator events as well.

Similar considerations also apply to shopping activity at a shopping venue. As discussed above, the shopping experience comprehends more than just retail purchase of specific items and the particular spaces devoted thereto. Rather, shopping centers also typically have auxiliary or appurtenant public areas, providing facilities such as restaurants, movie theaters, recreational areas, auditoriums, hotels, or public spaces for artistic or cultural events, as well as parking lots.

Similar considerations further apply to activities that take place at a college campus venue. As discussed above, the college campus experience offers a multitude of activities to participate in and/or spectate. College campuses typically have a large number of buildings, fields, and "quads" where students, faculty, and visitors interact in person. Most college campuses further have a stadium, basketball courts, tennis courts, football fields, baseball fields, theatres, exercise facilities, tracks, lecture halls, office buildings, dormitories, dining facilities, parking lots, and the like. Further, most college campuses have a defined border that defines the boundary of the campus, wherein most buildings and other facilities are located within the campus boundary—this being known as "on campus". In one embodiment of the present invention, the term "college campus" means within the campus boundary. In another embodiment of the present invention, the term "college campus" means that the activity is related to the college or university, but does not necessarily have to be within the campus boundary. For example, some colleges offer "off campus" housing. Other colleges utilize an "off campus" facility for some of their varsity athletic teams games (i.e. Seton Hall University hosts its varsity home basketball games at the Continental Airlines Arena in East Rutherford, N.J.). Other examples exist for "off campus" activities that are directly related to the college.

It is thus to be understood that the term "venue" as used herein with respect to the activities and events discussed above, whether or not they include specific programmatic content and defined duration, extends to a penumbra defined by its relationship to such activities and events. Participation in the present interactive method may be afforded to persons in the primary area of the activity as well as in any of these penumbral locations, all of which are to be understood as

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collectively included in the term "venue" as used herein. Such auxiliary areas of a venue as parking lots, lawns, walkways, and the like are to be understood as included as well. It is also to be understood that the present interactive participation may involve activity at any location within the venue.

Referring now to FIG. 1, there is shown an exemplary hand held, interactive device 10 adapted for use in connection with an embodiment of an interactive participation system in accordance with the present invention. In one embodiment, device 10 is employed by audience members at a sporting event as shown in FIG. 2. The device is adapted to communicate bi-directionally with a wireless communications system operative at the event, to provide information to a user, and to accept entry of information through a user input interface for transmission to the wireless communications system. In a preferred embodiment, the device 10 includes a housing 12 with an electronic display opening. An electronic display (visual display) 20 providing one form of user output interface is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display may be of many types, e.g. employing liquid crystal or electroluminescent displays. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a wireless communications system connected to a central processor (not shown) in a manner known in the art. The electronic display is adapted to output information received from the local microprocessor, such as graphic or textual messages that ask the participant to answer a question, provide an opinion, or convey other important information. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display. The visual display may be limited to presenting alphanumeric messages, but more preferably is capable of displaying graphical, pictorial, or streaming video input at various scan rates, preferably in real time. Keypad 50 accepts user input for transmission to the central processor.

A positioning system that is able to detect an interactive devices 10, and there by users, general location or pinpoint their specific position can be implemented as part of the present invention. Any number of known methodologies can be used to implement such a system including, but not limited to, triangulation, the Global Positioning System (GPS), proximity to special transmitters or other devices that can be sensed by the user's interactive devices 10. The interactive device's 10 position can either be calculated by the device and sent to the system, or determined by one or more parts of the system and transmitted to the device.

Once the interactive device's 10 position is determined by the interactive device 10, or transmitted thereto a number of steps can be taken by the unit based on the information. For example, the interactive devices 10 could vary the user interface presented to the user, e.g. if the user were to enter an area of a casino where gambling is permitted the user can be given the option of taking part in any number of events, including but not limited to bingo, keno type games, card games including blackjack and Texas Hold'em poker. These events can be events where actual money or property is at stake or simulations that can, among other purposes, be used to teach the user how to play a particular game without having to put any actual money or property at stake.

Or for example in a store or mall the user can be presented with representations, e.g. photos, of merchandise that is available for purchase in close proximity to the user.

In another aspect of the invention, the interactive device is optionally used by participants to receive audible or video

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programming, which may be transmitted in the commercial AM or FM broadcast band or at any of a number of predetermined frequencies in the RF, VHF, UHF, or microwave frequency bands, or via physical connection to the interactive devices **10**. The transmission may be analog or digital. Programming may also be transmitted optically, such as by modulation of an infrared emitting source located in the venue and received by a complementary photoreceptive element in the wireless interactive device and suitably processed for intelligible output. Optionally, the device also comprises means for receiving and displaying video signals such as from ordinary broadcast television stations. Transmission of such program content may be done via conventional commercial broadcast stations or with low power transmitters intended only to cover the immediate event venue. Transmitters are optionally located either within the venue, in its environs, or in any other location that permits a sufficiently intense signal to be present in the venue. In a preferred embodiment device **10** incorporates circuitry to receive the aforementioned audio or video program content. The circuitry is adapted to receive the content and present it to the user. An earpiece **15** is preferably included to allow the user to listen to the audio content associated with the device without annoying others nearby. It is noted that other listening means could be employed such as earphones, speakers, or the like.

In other embodiments the aforesaid audio or video programming may be transmitted via any computer network to which the interactive device is connected, such as by streaming audio or video transmitted via the Internet, time division multiple access (TDMA) networks, code division multiple access (CDMA) networks, or Global System for mobile communications (GSM) networks in accordance with presently employed protocols or other suitable protocols.

Such audio or video programming preferably comprises information or program content that is thematically pertinent to the event or venue or provides content otherwise useful to the participants. For example, on a university campus, such material might include news relating to the institution's athletic teams or other cultural or intellectual events in the life of the university community. At a shopping mall, the content might include shopping promotions or announcements or coverage of other entertainment occurring on the premises. The content may include descriptions of the action at the event, related expert commentary or instant replays. The content optionally includes other information of interest to participants, such as news and traffic reports and weather conditions and forecasts. Furthermore, the audio or video programming may include dissemination of questions or other matter incident to contests and polls conducted in accordance with the invention.

It is contemplated that special purpose devices such as the aforementioned interactive device **10** optionally be made available to enable participation by persons who do not carry a conventional wireless device such as a cellular telephone, two-way pager, personal PC, or PDA. Units possessing the required wireless communications capability, electronic display, and user input and output interfaces are easily assembled using off the shelf components, such as transceivers, displays, keypads, and microprocessors, and other miscellaneous electronic components. These special devices would preferably be prepared for each event at one or more locations, having battery charging and menu programming capability, and transported to kiosks or otherwise made available near public entry points in the venue. The kiosks would each be either sales locations or rental contract stations to secure deposit and payment terms (cash, credit/debit card, etc.), for furnishing the special devices to persons desiring to

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participate prior to start of the event, and collection of rented special devices after conclusion of the individual's participation. Optionally, such a device is provided to at least selected participants without charge or as part of the price of admission or, alternatively, as an optional item rented or purchased by the participant, and preferably subsidized by the promotional messages.

In another aspect of the invention, and more preferably, general-purpose wireless devices such as those routinely possessed and used by members of the public, are used for the aforementioned interactive communication. Preferably the wireless devices are selected from the group consisting of wireless personal digital assistants (PDA) and Pocket PC's; two-way pagers; and cellular telephones. Such devices normally incorporate input means such as keypads, selection buttons, and touch screens, and video and audio output means such as display screens, speakers, and earphones. The devices typically include circuitry, such as a local microprocessor, adapted to convert wireless input into forms presented by the output means and to accept user-entered input that is converted for wireless output in a manner known in the art. Many of these devices are also Internet-enabled, that is to say, able to send and receive textual or graphic data in protocols which are commonly associated with Internet technology and able to be processed suitably by routers, servers, and other ancillary equipment used in Internet communication. Additionally, such devices frequently have the capability of sending and receiving electronic mail and Internet-based instant messages which may be transmitted worldwide over the Internet. Suitable PDA's include wireless units sold under the PALM™ tradename by Palm Computing and under the BLACKBERRY™ tradename by Research in Motion. Wireless Pocket PC's e.g. those sold by Hewlett Packard, Compaq, and Dell, are also suitable.

Known user-supplied wireless interactive devices are ordinarily equipped with either software or hardware features that provide a unique signature or identification of each device, e.g. the telephone number of a cellular telephone or the IP address of an Internet enabled device. The aforementioned special-purpose devices are also provided with unique identification. Both the special-purpose devices and the user-supplied general-purpose devices are adapted to transmit the unique signature for identification purposes.

The present method preferably employs at least one unique signature of each wireless interactive device, whereby a given participant's entries and responses may be individually attributed and tracked and the various interactive features described herein may be individually or collectively implemented. In addition, an electronic account is frequently associated with each user-supplied device for charges and credits. In some of the embodiments of the present invention, charges are levied for goods and services provided and transferred to the account associated with each device. Likewise, monetary credits, coupons, and the like can be disseminated either electronically to the account or by mail to an address associated with the account.

In addition, it is preferred that information establishing each participant's location within a venue also be associated with that user's device. The association can be effected in many ways. Preferably, a given user is provided during the enrollment process with one or more identifying indicia that can be entered using the user input interface of the device and included in the unique signature transmitted by the device. For example, participants may be provided with indicia distributed beforehand or upon a request that is entered through the wireless device, e.g. through wireless connectivity to the Internet. Indicia may be provided by regular mail, e-mail,

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telephone text messaging, by connecting with an appointed Internet site, or any other suitable means. The foregoing features by which users are individually identifiable also permit the various services offered selectively to qualified, appropriate, or interested participants or groups of participants.

Many of the wireless devices useful in connection with the present system, such as cellular telephones, now include localization circuitry. One form of such circuitry relies on global positioning system (GPS) technology. The device is thereby enabled to determine its geographical position quite accurately and transmit a position identification signal under appropriate circumstances. In an aspect of the invention, the present system includes location-receiving circuitry, such as that provided by a wireless service provider, capable of receiving position identification signals from a wireless device and thereby determining whether a particular wireless device is within a preselected, geographically delimited operational zone. For example, this functionality is optionally used to ascertain whether a given device is on the premises of a venue such as a shopping center, a university campus, or a theme park.

As there are many suitable alternatives on which to base an embodiment of the current invention which are known to those skilled in the art, the specific interactive device and wireless communications technology used, the specific multiple access communication protocol used, and the specific client/server hardware interface and protocol are not important to the method of the invention so long as they support the required functions. What is important is the method of this invention by which the customer is provided better service.

A number of currently used communications protocols suitably provide connectivity between several of the aforementioned user devices and a wireless communications system. One presently preferred protocol is provided by the commercial cellular telephone network. Many wireless or cellular telephones currently operative with these networks incorporate provisions for sending and receiving textual messages and graphic images, and for exchanging electronic mail through the Internet. Improved capabilities for wirelessly transmitting streaming video at various scan rates are rapidly being developed and are useful in the practice of the present method. Current cellular telephone systems provide various forms of instant messaging capability also useful in transmitting and receiving the queries, advertisements, and the like used in the present method. Messaging in accordance with the Short Message Service (SMS) protocol is presently preferred, but other forms of messaging are also contemplated within the present invention.

The bidirectional wireless communications used in the practice of the present method and system are preferably implemented using at least one transmission form selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions. Ultra-wide band and spread-spectrum transmission are especially promising technologies for the broadcasting of messages and transmission of participants' responses. The multiplexing and frequency shifting inherently available in such technologies improve immunity to noise and interference and the security of data in transmission. For example, suitable techniques which may be used in the implementation of the present system are practiced in connection with cellular telephone systems, including such currently preferred methods as frequency division multiple access (FDMA), time division multiple access (TDMA), code division multiple access (CDMA), and global system for mobile communications (GSM) protocols, as well as other protocols including those defined by the International Tele-

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communications Union. Especially preferred are implementations of the present method compliant with interoperability standards promulgated by the Open Mobile Alliance and made available at the website www.openmobile.com and by the WAP Forum at the website www.wapforum.com. It is also preferred that access to the interactive features of the present invention be provided to customers of more than one provider of wireless services, including providers of cellular telephone service or of wireless access for PDAs and Pocket PCs. In some embodiments, such access for participants employing wireless interactive devices served by a plurality of providers is provided by a wireless communications system wherein network connection of plural providers permits needed exchange of information, e.g. via the Internet. In other embodiments, the wireless communication system comprises one or more authorized providers of wireless service. Participants employing wireless interactive devices served by another wireless service provider are furnished an access code, such as a telephone number and optionally further codes, or the like, permitting them to connect to one of said authorized providers, whereby they are enabled to participate in the present method, being afforded access to the various features described herein.

Another preferred communications protocol is specified by the several levels of IEEE Standard No. 802.11, published by the Institute of Electrical and Electronics Engineers, and which are incorporated herein in the entirety by reference thereto. Standards in the IEEE 802.11 class (which are also known commonly as "Wi-Fi") specify a local area network system for wirelessly connecting individual devices such as PDA's and Pocket PC's to a local server through which the devices may communicate wirelessly, e.g. through a local intranet or the global Internet. Other wireless protocols that may be used to establish connectivity are also known, such as the Bluetooth Standard, published by the Bluetooth SIG and available through the website www.bluetooth.com, and incorporated herein in the entirety by reference thereto.

It will be understood by one skilled in the relevant art that different transmission modes and frequencies may be used by the wireless communications system for the transmissions to and from the wireless interactive device and that multiple transmission modes and frequencies may be used to accommodate interactive devices of different types simultaneously operated in the present system.

In one aspect, the present method includes the step of providing a wireless communication system adapted to transmit and receive messages with the wireless interactive devices used by the participants. The wireless system is used to disseminate promotional messages to the participants through the user output interface of the wireless device.

The wireless device employed in the present method preferably presents promotional messages or advertising from sponsors and/or advertisers. Monetary compensation for the presentation of such advertising material is optionally used to defray or underwrite the costs associated with practice of the present invention. Messages can be in the form of indicia located (e.g., physically imprinted) on devices loaned, rented, sold, or otherwise provided to participants. FIG. 1. Additionally, the messages can be visually displayed by the device or can be aurally communicated through the same. The messages can be in the form of preprogrammed or stored aural or visual messages or recordings that are played, e.g. when the device is powered up or down, or at regular or random intervals during usage of the device. Preferably, messages are transmitted by the wireless communication system and presented live during the entertainment event via open band lines. Visual advertising may be presented in discrete seg-

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ments interspersed with program content or it may be incorporated substantially continuously into the overall image being presented at a given time, such as a banner ad.

In still another aspect of the present method, demographic information or characteristics of the users of wireless interactive devices are gathered and used in various ways. Users may be asked to enter information, such as their age or gender. Other demographic information may be related to the music type preferences or food type preferences of the users. The computer system preferences of the users, as between a PC and a Mac, may also be gathered. Alternatively, such information may already be extant and available in databases, such as records of cellular telephone customers. Such information may be used to select which of a plurality of advertisements or queries are most appropriate and likely to be of interest to a given user. The individual addressability of devices such as cellular telephones and wireless PDA's permits individually selected commercials to be presented to particular individuals or groups. Demographic information may also be used to tailor questions and limit contest participation to selected users. For example, in some embodiments participation in all or part of a survey or competition may be offered only to a demographically restricted group. At a casino or other entertainment venue within which entry to certain areas and participation in certain events, e.g. gambling and consumption of alcoholic beverages, is restricted by age, promotional messages may be limited accordingly. In addition, customer survey information is considered more useful by advertisers if the answers are categorized by the demographics of the respondents. All of these functions are easily implemented in the practice of the present method.

In an aspect of the invention, interactive participation using the present method and system is limited to participants who have been enrolled. Such enrollment may be effected by any suitable process carried out either before or during the entertainment event or activity. Optionally, enrollment requires monetary consideration from the person becoming an enrolled participant. Preferably, a participant enrolls by entering suitable information using the wireless interactive device. In some implementations, prospective participants may enroll by a method including a request for enrollment transmitted by telephone, e-mail, interactive registration through an Internet site, regular postal mail, in person at a kiosk or a dedicated terminal provided at the venue. Optionally, the patron is provided with an activation code to be entered using the user input interface of the wireless device. Alternatively, persons having a suitable wireless device with localization circuitry may be identified as being present in the venue and thereafter enrolled automatically or be prompted to accept enrollment, e.g. by exchange of text messages. In other embodiments, participation is limited to persons who have enrolled and who are also identified by wireless device localization circuitry as being physically present at the event venue. Optionally, the participant status is terminated when the individual is no longer present in the venue, but may be restored automatically upon return to the venue. The enrollment may also be for a predetermined time period and expire thereafter. The dissemination of information, such as promotional messages and queries for the interactive contests afforded by the present method, may be limited to participants actually present at the venue.

In yet a further aspect, the present method may be used to conduct contests, games, and opinion polls of many types. Generally stated, such activities comprise the steps of: posing one or more questions to participants; prompting the participants to enter an answer to the question using their wireless interactive devices; and processing the results. The questions

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may be posed using any communication form by which they can be effectively conveyed to participants. Preferably the questions are in a form that may be answered by selection of one of a relatively limited number of alternatives, such as a multiple-choice question or a rating scale. Answers may be entered using the user input interface. Preferably, the results are reported to at least the participants, but they may also be furnished to sponsors, advertisers, or other interested parties.

Contests, games, and polls may include many different types of questions. Concertgoers might be asked to select a favorite song or artist from a number of choices presented or to choose songs to be performed during the concert. Civic events and political rallies might evoke questions about preferences of candidates for public office, opinions about civic issues, legislation, and public policies of many sorts. Participants may also be asked various market research questions, such as their rating of goods or services, e.g. for quality, popularity, ease of use, or other desired characteristics. Other types of questions of more general nature and interest may also be used. Answers preferably are accepted during a limited, preselected time interval.

Preferably, participants in the contests, games, or polls, or respondents to other queries conducted in accordance with the invention, are awarded prizes or other forms of consideration as inducement to participate. For example, one or more participants who correctly answer contest questions or participate in games or opinion polls may be awarded a cash prize or credit. These considerations may be utilized to enhance the enjoyment of participants, to encourage further participation in the querying and contest aspects of the present method, and to promote the sale of goods and services. Such prizes include goods and services of any form or discounts toward the purchase thereof. One preferred form for the delivery of such a credit is an electronic coupon that can be redeemed for any form of consideration, including merchandise, services, and/or other prizes available at the venue. Alternatively, coupons redeemable for items or services at no cost or at a reduced cost may be delivered. For example, a message may be transmitted to a user's wireless device bearing a unique authentication code that could be verified by a vendor, such as through a cash register electronically linked to the central processor or order processing server, or by a telephone call to a preselected verification number. In other implementations, a graphic image such as a bar code or other like pattern indicative of the coupon is delivered for display on the user's wireless device and read by a suitable reader at a cash register. In still another alternative, a printed coupon can be physically delivered to the participant based on the location of the user's interactive device by means of communication with the transceiver located therein or by other indication means, or delivered to a remote location by actual physical delivery by mail or the like, or by any form of electronic delivery. The coupons may be redeemed with vendors such as fast food delivery restaurants, the on campus book store, or other local businesses serving the college campus. Either points or direct monetary credits could also be entered electronically into an account associated with a user, such as a user's credit or debit card, an account for the user's wireless device or Internet service provider, or by other like means known in ordinary commerce. For example, a user collecting sufficient points may redeem them for goods, services, or money. In a preferred embodiment, credits or coupons are transmitted to the winning participant in conjunction with billings for such an account of the participant.

Implementations of the present method and system particularly suited for college campuses and related types of venue preferably include dissemination of promotional mes-

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sages soliciting participants to patronize businesses within the venue, such as the college book store. Preferably, the promotional messages also convey coupons or other discount offers.

Certain businesses such as restaurants, hairdressers, spas, physical exercise facilities, and the like, are commonly located within or in close proximity to college campuses. These businesses offer particular and specific services to individuals or small, predefined groups of acquainted persons, either at appointed times or when service (i.e. specific equipment or service persons) becomes available. Practice of the present method is especially beneficial for these enterprises. In an aspect of the present method, promotional messages from these businesses solicit enrolled persons to make a reservation for a desired future service and request notification to be made thereafter through the wireless interactive device, such as by receipt of a cellular telephone call or text message, of the availability of the service. For example, a restaurant might notify a patron that a table has become available; a gymnasium might notify a patron that desired exercise machines or a personal trainer was available. The service may also comprise a defined service task, such as repair of shoes or other wearing apparel, an appliance, or a motor vehicle, with the notification of the patron indicating completion of the service task and the availability of the item for pick-up. In these and related situations, students and faculty are afforded a more pleasant college campus experience and a more productive use of free time enjoying other activities or accomplishing other needful tasks instead of non-productively waiting in lines.

In a further embodiment, the solicitation and querying for services is optionally used also for ordering. For example, a restaurant might solicit business by providing its food and beverage menu by transmission to the participant's wireless interactive device. A hierarchical arrangement of a known sort including submenus may be used in situations wherein more items are available than can be accommodated within the confines of output displays of extant interactive devices. An interested user could then select desired items by navigating using the input interface through the menus to select and order one or more items for purchase, either to be consumed at the restaurant or prepared for take-out. The user is notified when the order is ready or a table is available using his/her wireless interactive device. As hierarchical menu systems have become ubiquitous with the advent of automated teller machines and windowed graphical user interfaces on modern personal computer operating systems, the concept and the method of their use are familiar to many persons and will not be further described here.

Preferably, monetary consideration for purchased items is provided by electronic transfer of funds between bank accounts or by charges billed to a user, such as to a user's conventional debit or credit card or wireless service provider account. Consummation of transactions using other forms of payment known for electronic processing may also be used and are to be considered within the scope of the method of the invention. In one embodiment, the present system is connected to an electronic financial network of a type known in the art. Transfer of funds from the network provides monetary consideration to the provider for the goods and services received by the ordering participant.

Alternatively, any mechanism for effecting electronic payment known in the relevant art is used. As is well understood by those skilled in the art, even the limited hardware display and processing capacity of present cellular telephones, PDA's, and pagers is sufficient to accommodate the aforementioned menu and ordering method. However, as time

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moves on, much higher text densities and graphics resolution will likely become commonplace in such devices and allow ever-increasing functionality to be provided and used in the method of this invention.

In addition, other services are optionally offered, such as restaurant, lodging and transportation reservations, biographical and recording data for athletes, concert artists, and other performers, future schedules of events, and myriad other information. This information can be conveyed visually, audibly, or via a combination of both media forms. The offerings presented through the wireless interactive device may be complemented by messages simultaneously displayed on video displays, monitors, or the like to enhance their ability to garner the participants' attention.

In an implementation, the present method also comprises querying the participants to respond with answers entered through the user input interface of the wireless device and transmitted therefrom using the wireless communication system. The answers received are transferred to a central processor for processing into results. It will be recognized that the accumulation of results may be done in the central processor or in one or more distributed receiving servers networked in data communication with the central processor by techniques well known in the computer art, such as by use of a local area network communicating over wire, wireless, or fiber optic communication links. Preferably, a stored computer program operative in either form of server accumulates and stores the incoming answers, at least temporarily, as participant data. The results of processing the participant data are also preferably stored, at least temporarily. At a suitable time, such as after the expiration of an announced deadline for participants to enter and transmit their responses to queries, the processed results are then announced to the participants. Optionally prizes are awarded to participants who have entered an answer.

It will be understood that all of the aforementioned computing functions can be carried out by one or more general-purpose computer processors located either within the event venue or its environs, or at a remote location linked by any suitable data communications link using cable, fiber-optic, wireless, or other comparable transmission. The computing functions may be carried out by a single central processor, by linked distributed processors, or a combination thereof. It is also to be understood that the aforementioned computing functions can be implemented in software as an application program tangibly embodied on a program storage device. This stored software can be used in whole or in part in various forms of hardware or special purpose processors, or a combination thereof that comprise applicant's invention.

Queries can be promulgated to the participants in many ways, including notice given by public address system announcements, visual displays such as video monitors of any size, or the like visible to the participants, or by messages such as aural, textual, or graphic messages transmitted to the interactive units and then output to the participant using the user output interface. In some implementations questions may be printed in event programs, flyers, newspapers, or the like. Optionally the queries are included in content provided by Internet portal sites to which participants may connect. Questions may also be included in audio or video announcements, or in other program content broadcast to the interactive units. Preferably, the questions are promulgated using at least one display visible to the participants. More preferably, the visible display comprises large-scale displays and/or monitors provided in the venue. After assimilation and processing of participant responses, announcement of results may be

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given to the participants by similar means, or by another form of public dissemination, such as an Internet posting.

In one embodiment, a display visible to a sizable number of participants, such as large screen display **40**, as depicted in FIG. **2**, is used both for promulgating queries to participants and for announcing results. Any one or more large display devices capable of displaying a video, graphic, or alphanumeric image to a large number of participants may be used, a JUMBOTRON® display being one suitable and preferred type. Alternatively, the display visible to the participants comprises plural video monitors such as CRT displays, plasma screens, or the like, preferably dispersed throughout the venue.

The questions and results are optionally displayed on these monitors. A user input interface, such as keypad **50** on device **10**, allows an enrolled participant to enter a response to queries. Examples of simple user input interfaces include a keypad, selection buttons, a touch screen, a rotatable dial, a pointing device such as a mouse or trackball, and a voice recognition system, but any other user interface by which the required input can be effected could be incorporated in the practice of the invention. A voice recognition system advantageously facilitates the use of the present system by visually impaired persons. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

In FIG. **2** there is depicted the practice of an embodiment of the invention. At least some of the spectators at an athletic event occurring in a large, outdoor stadium employ an interactive device **10** and **10'**. Although FIG. **2** depicts the practice of the present method in a football stadium, it will be understood that the present invention may also be practiced at venues of other types. It will be understood that the interactive device may be an item provided by the participant such as a cellular phone, or a wireless PDA or Pocket PC. Alternatively, suitable general- or special-purpose devices are made available at the spectator venue for purchase or rent or are given away without charge. In still other embodiments, the present system is operative both with user-provided devices and devices made available at the venue. The present inventor contemplates that only a portion of the persons present in a venue may choose to participate, either by using a suitable general-purpose interactive device they furnish or by obtaining a specialized unit at the venue. FIG. **2** further depicts the users entering answers to a query using keypads available on their respective interactive devices and the display of answers on a large display board **40**. In addition to displaying results of the audience querying or contest, the material displayed on board **40** or dispersed video monitors optionally also includes promotional messages or advertising. For example, a given contest question might be sponsored by a business entity in return for including advertising for the entity's products or services during the querying and announcing associated with that contest.

Optionally, the responses of the participants are sent to a central processor (not shown) having a computer program stored and operative therein that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device **10** or a remotely located large screen display **40**. FIGS. **1** and **2**. The processed information could be a compilation or tabulation of similar responses, as either a number or a percentage of total responses, a graphical representation in a bar chart, pie chart or the like, or a combined graphical and numerical representation of the data. The processing further may include categorization of participants' responses according to demographic characteristics, which might include the age or gender of the participant.

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ization of participants' responses according to demographic characteristics, which might include the age or gender of the participant.

In addition to prizes that can be won by participating in the contests and polls described above, a number of other incentives are optionally offered to attendees to induce them to participate in the interactive aspects of the present invention. In one aspect, access to a chat room and instant messaging are provided to some or all the enrolled participants. Participants may be enrolled by any suitable process, as delineated hereinabove. Messages may be exchanged interactively among the participants using any suitable protocol, such as cellular telephone text messaging and known systems used for instant messaging between Internet enabled personal computers and Internet-enabled wireless telephones, PCs, and PDAs. Optionally, enrolled participants are offered the chance to receive one or more newsworthy instant messages from a message sponsor. In some embodiments, the chat room and instant message features are provided at no cost, while in others, a fee might be charged by the offering entity for the services.

Yet another aspect of the invention allows participants to interactively participate in auctions, which may be of any type commonly known, including conventional auctions wherein items are sold to the lowest bidder; Dutch auctions, in which one or more items are offered at a fixed price to the first bidder or preselected maximum number of bidders; a reverse auction, in which the price of an item is lowered in response to a large number of bids received; and other forms. The goods or services offered in such auctions may include any goods or services of interest to the participants. The auctions are conducted by disseminating a description of the goods or services offered to the participants through one or more of the modes discussed hereinabove for the dissemination of the contest queries of the invention. Participants enter their bids or related responses by using the user input interface of their wireless interactive devices. Such auctions conducted within a venue in accordance with the invention beneficially evoke a high level of interest due to the level of enthusiasm and excitement typically evident in such an environment.

Preferably, the opportunity to participate in the various interactive features of the present method and system, along with eligibility for the various prizes and other incentives, are offered to substantially all the persons at the venue. However, participation in some or all features may be limited to some subset of the persons physically present at the event.

FIG. **3** depicts one implementation of the system **100** of the invention. A wireless communications system **105** provides service to cellular telephones, wireless PDA's, and Pocket PC's. Wireless, or wired (not shown) interactive devices that can be used with the system are a plurality of cellular telephones **110** and, which are served by cellular telephone provider **112** through signals transmitted and received at antenna **114**. Wireless PDA's **116** are served by wireless PDA service provider **118** through signals transmitted and received at antenna **120**. A wireless local area network **122** transmitting signals in accordance with one of the levels of IEEE Standard 802.11 from antenna **124** serves wireless Pocket PC's **126**. Each of cellular telephone provider **112**, wireless PDA service provider **118**, and wireless local area network **122** communicates through the Internet **128**. An exemplary wired interactive device can be presented to a user via the internet to a user logged onto, e.g., a on/off campus, or casino, computer connected to the network **122** using for example an ethernet or token ring connection. The user interface can be presented to the user via a web browser. Such a user interface can allow interaction with applicant's system **100** as if the user were

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using a wireless Pocket PC **126** or other device capable with wirelessly connecting to the applicant's system **100**.

Enrollment server **150** is used to receive messages transmitted from interactive devices **110**, **116**, and **126** or otherwise requesting enrollment. Promotional message server **130** selects promotional messages which are transmitted via the Internet to wireless communications system **105**, and broadcast to interactive devices **110**, **116**, and **126**. Promotional messages are also transmitted to a large video display **132**, which includes a controller operative to receive digital information, e.g. information received via the Internet, and convert it into corresponding textual, graphic, or video displays for presentation. Central processor **134** provides queries displayed on display **132**. Answers to such queries are entered on the user input interfaces of interactive devices **110**, **116**, and **126** and received by distributed receiving servers (not shown) maintained by each of cellular telephone provider **112**, wireless PDA service provider **118**, and wireless local area network **122**. The distributed receiving servers accumulate the answers and transfer them by Internet to central processor **134** for processing into results, which are then communicated and displayed by display **132**. Order processing server **136** receives orders for goods and services entered by participants using their wireless interactive devices and communicates those orders to one or more providers **138** of goods and services, such as food/beverage vendors. Connection **140** to electronic financial network **142** enables the electronic transmission to providers **138** of monetary consideration for the goods and services they furnish. Enrollment server **140** acts in concert with central processor **134** and promotional message server **130** in the selection of promotional messages and queries and the enrolled participants to whom such communications are sent.

It will be understood by those skilled in the relevant art that the functions of the plural servers alternatively may be shared among a smaller number of servers or may be accomplished by central processor **134**. The plural servers also may be in data communications via the Internet or a local network implemented using connections by wire, wireless, or optical data transmission, in any way conventional in the art. Other networking protocols suitable for the interchange of digital information may also be used.

The following embodiments more particularly refer to the situation wherein the venue is a college campus. The persons utilizing the method and system of the present invention may include students, faculty, and/or visitors to the college campus. The students may reside on campus in dormitories, may reside in off campus housing, or may commute from a more distant home. Any student enrolled with the college will benefit from the interactive capabilities afforded by the present method and system. Further, the students utilizing the present system and method are not required to matriculate at the college, but instead may be visiting students from other universities. In a preferred embodiment, the present method and system provides an interactive environment that is specifically unique to each particular college that implements its usage.

The present method and system is especially advantageous for those students who do not live on campus, because it allows these students to keep informed of the on campus activities and interact with other students and faculty from remote locations via the wireless interactive device. For example, in one embodiment of the present invention, students may view class lectures live on the user output interface of the wireless interactive device from remote locations and can interact with the professor and other students physically located at the class by responding to queries related to the

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class lecture. In another preferred feature of the present system and method, the querying comprises an interactive dating service of the type known in the art. Such dating service may include profiles of singles who are seeking out dates with other singles. In another aspect of the present method and system, a similar service is provided to users that would enable students to locate new friends or communicate with existing friends. Such communication may be in the form of instant messaging, chat rooms, or text messages within the network of registered users employing the wireless interactive device.

Each college could administer and regulate the permitted uses of the wireless interactive system of the present invention. Preferably, users must register by enrolling as participants. Each participant has a unique signature associated with his wireless interactive device. Preferably, the unique signature is the cellular phone number for the wireless interactive device. Student groups may utilize the present method and system by disseminating information related to on campus activities, as well as student government issues—such as voting for student government positions.

Preferably, demographic information is collected from each person during the enrollment process to become a registered user. Such demographic information may include the music type preferences or the food type preferences of the user, as well as the computer system preferences of the enrolled participant as between a PC and a Mac. This demographic information may be utilized by licensed vendors in order to more effectively tailor the distribution of promotional messages, queries, and coupons related to a variety of goods and services. In another embodiment, a single wireless service provider is the exclusive provider of the wireless interactive device utilized by the enrolled participants. In one embodiment, the wireless interactive devices are distributed to all incoming students at the beginning of the school year and are included as part of the cost of the tuition. It is further to be understood that the meaning of the term "college campus" as used herein refers to any of the following: a two year college, a four year college or university, a vocational school, a graduate school, and the like. Further, the scope of the invention may extend to high schools and other institutions besides colleges.

In another aspect of the present method and system, the college officials can utilize the wireless communication system to transmit urgent messages to persons having the wireless interactive device. Such messages may include any one of the following: severe weather approaching, terrorism alerts, or any other dangerous threats which would jeopardize the safety of the students, faculty, and visitors attending the college campus.

Applicant's invention can be implemented by specialized software program tangibly embodied on a program storage device. The software can access and present various forms of data, including but not limited to, images, audio clips, videos and user interfaces, e.g., html forms and other html pages that are tangibly embodied on a program storage device. Such data can be in directly and tangibly embodied in a program storage device or may take the form of software code that can construct such data in a just in time fashion e.g. using Perl scripts or cgi-bin programming.

Applicant's invention can also be implemented using one or more application program interfaces (APIs), which can allow access to different aspects of the system. Such APIs, in accordance with applicant's invention, can take the form of specifications that can be used by developers of various devices and networks used in applicants invention communicate with each other and what each functions each device

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must carry out. An API, in accordance with applicants invention, can also be a set of functions that different devices can use to interface with applicant's invented system.

In an exemplary embodiment, the APIs can be implemented to allow different types of access to the applicants system based on the needs of the intended user (it should be noted that the intended user can be an actual living being, a software method being executed by a device in communication with applicant's system). For example, an API intended for use in a user device in accordance with applicant's invention. Such an API might contain facilities that allow for a user to login in, access and change various preferences and identity information. The API may also comprise a facility to present to the user various user interfaces at various times. The API could allow for the collection and processing of user input. After appropriate processing, the API could facilitate the transmission of such data to one or more devices connected to applicant's system, e.g. an enrollment server or another user's device. The API could also allow for the reception and processing of various communications, received from those devices.

Another exemplary API can be used to implement an interface to applicant's system for various advertisers. Such an API could have functions that, for example, allow to monitor various aspects of the instant event, interactions of one or more users. The API would also allow the various advertisers to submit messages to be transmitted to users, and define the characteristics of users to whom one or more messages is supposed to be sent. The API could also allow access to a database containing information gathered from the users that has been cleaned and ready for data mining. Such an API might allow an advertiser to easily integrate communication with their system and applicant's invention. This could allow an advertiser to develop their own automated application that can automatically select and send appropriate advertisements to individual user devices without having to contact an intermediary agent. Such an API could advantageously allow an advertiser to subscribe to the system, possibly through an intermediary agent, and then allow the advertiser instantaneous access to user devices "in real-time" as the event progresses at one or more venues.

Having thus described the invention in rather full detail, it will be understood that such detail need not be strictly adhered to, but that additional changes and modifications may suggest themselves to one skilled in the art, all falling within the scope of the invention as defined by the subjoined claims.

What is claimed is:

1. A program storage device readable by a wireless interactive device, tangibly embodying a program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

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querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device; said method further comprises the step of detecting said transmitted location signal; and said enrolling step is effected automatically for persons attending said college campus venue and possessing a said wireless interactive device, upon detection of said transmitted location signal indicative of a physical location within said college campus venue.

2. A program storage device as recited by claim 1, wherein the method steps are implemented using an Application Program Interface (API).

3. A program storage device as recited by claim 1, further comprising the step of disseminating at least one promotional message to said enrolled participants.

4. A program storage device as recited by claim 3, wherein said promotional message is displayed on said user output interface.

5. A program storage device as recited by claim 3, wherein said promotional message is disseminated for monetary consideration from an advertiser.

6. A program storage device as recited by claim 1, wherein said querying is directed only to enrolled participants located within said college campus venue.

7. A program storage device as recited by claim 1, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

8. A program storage as recited by claim 7, wherein said transmitting of said request is carried out using at least one of telephone, e-mail, interactive registration through an Internet site, and regular postal mail.

9. A program storage as recited by claim 1, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

10. A program storage as recited by claim 7, wherein said enrolling comprises receipt of a text message transmitted from said wireless interactive device.

11. A program storage as recited by claim 1, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

12. A program storage as recited by claim 1, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

13. A program storage as recited by claim 1, wherein said enrolling expires after a predetermined time period.

14. A program storage as recited by claim 1, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

15. A program storage as recited by claim 1, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

16. A program storage as recited by claim 15, wherein said query is selected based on said demographic characteristics of said enrolled participant.

17. A program storage as recited by claim 15, further comprising the step of disseminating at least one promotional message to said enrolled participants, said promotional mes-

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sage being selected based on said demographic characteristics of said enrolled participant.

18. A program storage as recited by claim 1, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

19. A program storage as recited by claim 18, wherein said incentive comprises conveying to said participant at least one of goods, services, or coupons redeemable for at least part of the price of goods or services.

20. A program storage as recited by claim 18, wherein said incentive comprises electronic transfer of consideration to said enrolled participant.

21. A program storage as recited by claim 1, further comprising the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface.

22. A program storage as recited by claim 21, wherein said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

23. A program storage as recited by claim 1, wherein said querying comprises a contest.

24. A program storage as recited by claim 1, wherein said querying comprises a game.

25. A program storage as recited by claim 1, wherein said querying comprises an opinion poll.

26. A program storage as recited by claim 1, wherein said querying is limited to a portion of said enrolled participants.

27. A program storage as recited by claim 1, wherein said querying step is accomplished by at least one display visible to said participants.

28. A program storage as recited by claim 27, wherein said display comprises a large-scale video display.

29. A program storage as recited by claim 1, wherein said querying step is accomplished by a notice audible to said enrolled participants.

30. A program storage as recited by claim 1, further comprising the step of awarding a prize to at least one of said participants who has entered an answer in response to said querying.

31. A program storage as recited by claim 30, wherein said prize is delivered to said enrolled participant.

32. A program storage as recited by claim 30, wherein said prize is transferred electronically to said enrolled participant.

33. A program storage as recited by claim 1, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

34. A program storage as recited by claim 1, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

35. A program storage as recited by claim 1, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

36. A program storage as recited by claim 1, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

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37. A program storage as recited by claim 1, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

38. A program storage as recited by claim 1, wherein said promotional messages include: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

39. A program storage as recited by claim 38, wherein said solicitation prompts said enrolled person to select and order items comprised in said desired service.

40. A program storage as recited by claim 1, wherein said persons are students.

41. A program storage as recited by claim 1, wherein said persons are faculty.

42. A program storage as recited by claim 1, wherein said persons are visitors.

43. A program storage as recited by claim 1, wherein said querying is related to a class lecture.

44. A program storage as recited by claim 43, wherein said class lecture is displayed on said user output interface from a remote location.

45. A program storage as recited by claim 1, wherein said querying comprises an interactive dating service.

46. A program storage as recited by claim 1, wherein said querying is related to student government issues.

47. A program storage as recited by claim 1, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

48. A program storage as recited by claim 15, wherein said demographic characteristics are related to the music type preferences of said enrolled participant.

49. A program storage as recited by claim 15 wherein said demographic characteristics are related to the food type preferences of said enrolled participant.

50. A program storage as recited by claim 15, wherein said demographic characteristics are related to the computer system preferences of said enrolled participant as between a PC and a Mac.

51. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for communicating with a wireless interactive device for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

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52. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for communicating as recited by claim 51, wherein the method steps are implemented using an Application Program Interface (API).

53. A program storage device as recited by claim 51, further comprising the step of disseminating at least one promotional message to said enrolled participants.

54. A program storage device as recited by claim 53, wherein said promotional message is displayed on said user output interface.

55. A program storage device as recited by claim 53, wherein said promotional message is disseminated for monetary consideration from an advertiser.

56. A program storage device as recited by claim 51, wherein said querying is directed only to enrolled participants located within said college campus venue.

57. A program storage device as recited by claim 51, wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for whom said transmitted location signal is indicative of a physical location within said college campus venue.

58. A program storage device as recited by claim 51, wherein:

- a. said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device;
- b. said method further comprises the step of detecting said transmitted location signal; and
- c. said enrolling step is effected automatically for persons attending said college campus venue and possessing a said wireless interactive device, upon detection of said transmitted location signal indicative of a physical location within said college campus venue.

59. A program storage device as recited by claim 51, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

60. A program storage device as recited by claim 59, wherein said transmitting of said request is carried out using at least one of telephone, e-mail, interactive registration through an Internet site, and regular postal mail.

61. A program storage device as recited by claim 51, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

62. A program storage device as recited by claim 59, wherein said enrolling comprises receipt of a text message transmitted from said wireless interactive device.

63. A program storage device as recited by claim 51, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

64. A program storage device as recited by claim 51, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

65. A program storage device as recited by claim 51, wherein said enrolling expires after a predetermined time period.

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66. A program storage device as recited by claim 51, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

67. A program storage device as recited by claim 51, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

68. A program storage device as recited by claim 67, wherein said query is selected based on said demographic characteristics of said enrolled participant.

69. A program storage device as recited by claim 67, further comprising the step of disseminating at least one promotional message to said enrolled participants, said promotional message being selected based on said demographic characteristics of said enrolled participant.

70. A program storage device as recited by claim 51, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

71. A program storage device as recited by claim 70, wherein said incentive comprises conveying to said participant at least one of goods, services, or coupons redeemable for at least part of the price of goods or services.

72. A program storage device as recited by claim 70, wherein said incentive comprises electronic transfer of consideration to said enrolled participant.

73. A program storage device as recited by claim 51, further comprising the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface.

74. A program storage device as recited by claim 73, wherein said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

75. A program storage device as recited by claim 51, wherein said querying comprises a contest.

76. A program storage device as recited by claim 51, wherein said querying comprises a game.

77. A program storage device as recited by claim 51, wherein said querying comprises an opinion poll.

78. A program storage device as recited by claim 51, wherein said querying is limited to a portion of said enrolled participants.

79. A program storage device as recited by claim 51, wherein said querying step is accomplished by at least one display visible to said participants.

80. A program storage device as recited by claim 51, wherein said display comprises a large-scale video display.

81. A program storage device as recited by claim 51, wherein said querying step is accomplished by a notice audible to said enrolled participants.

82. A program storage device as recited by claim 51, further comprising the step of awarding a prize to at least one of said participants who has entered an answer in response to said querying.

83. A program storage device as recited by claim 82, wherein said prize is delivered to said enrolled participant.

84. A program storage device as recited by claim 82, wherein said prize is transferred electronically to said enrolled participant.

85. A program storage device as recited by claim 51, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave trans-

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mission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

86. A program storage device as recited by claim 51, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

87. A program storage device as recited by claim 51, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

88. A program storage device as recited by claim 51, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

89. A program storage device as recited by claim 51, wherein said persons are students.

90. A program storage device as recited by claim 51, wherein said persons are faculty.

91. A program storage device as recited by claim 51, wherein said persons are visitors.

92. A program storage device as recited by claim 51, wherein said querying is related to a class lecture.

93. A program storage device as recited by claim 92, wherein said class lecture is displayed on said user output interface from a remote location.

94. A program storage device as recited by claim 51, wherein said querying comprises an interactive dating service.

95. A program storage device as recited by claim 51, wherein said querying is related to student government issues.

96. A program storage device as recited by claim 51, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

97. A program storage device as recited by claim 67, wherein said demographic characteristics are related to the music type preferences of said enrolled participant.

98. A program storage device as recited by claim 67, wherein said demographic characteristics are related to the food type preferences of said enrolled participant.

99. A program storage device as recited by claim 67, wherein said demographic characteristics are related to the computer system preferences of said enrolled participant as between a PC and a Mac.

100. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

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receiving answers entered by said enrolled participants; wherein said querying is directed only to enrolled participants located within said college campus venue.

101. An API as recited by claim 100, further comprising the step of disseminating at least one promotional message to said enrolled participants.

102. An API as recited by claim 101, wherein said promotional message is displayed on said user output interface.

103. An API as recited by claim 101, wherein said promotional message is disseminated for monetary consideration from an advertiser.

104. An API as recited by claim 100, wherein said querying is directed only to enrolled participants located within said college campus venue.

105. An API as recited by claim 100, wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for whom said transmitted location signal is indicative of a physical location within said college campus venue.

106. An API as recited by claim 100, wherein:

a. said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device;

b. said method further comprises the step of detecting said transmitted location signal; and

c. said enrolling step is effected automatically for persons attending said college campus venue and possessing a said wireless interactive device, upon detection of said transmitted location signal indicative of a physical location within said college campus venue.

107. An API as recited by claim 100, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

108. An API as recited by claim 107, wherein said transmitting of said request is carried out using at least one of telephone, e-mail, interactive registration through an Internet site, and regular postal mail.

109. An API as recited by claim 100, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

110. An API as recited by claim 107, wherein said enrolling comprises receipt of a text message transmitted from said wireless interactive device.

111. An API as recited by claim 100, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

112. An API as recited by claim 100, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

113. An API as recited by claim 100, wherein said enrolling expires after a predetermined time period.

114. An API as recited by claim 100, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

115. An API as recited by claim 100, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

116. An API as recited by claim 115, wherein said query is selected based on said demographic characteristics of said enrolled participant.

117. An API as recited by claim 115, further comprising the step of disseminating at least one promotional message to

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said enrolled participants, said promotional message being selected based on said demographic characteristics of said enrolled participant.

118. An API as recited by claim 100, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

119. An API as recited by claim 118, wherein said incentive comprises conveying to said participant at least one of goods, services, or coupons redeemable for at least part of the price of goods or services.

120. An API as recited by claim 118, wherein said incentive comprises electronic transfer of consideration to said enrolled participant.

121. An API as recited by claim 100, further comprising the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface.

122. An API as recited by claim 121, wherein said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

123. An API as recited by claim 100, wherein said querying comprises a contest.

124. An API as recited by claim 100, wherein said querying comprises a game.

125. An API as recited by claim 100, wherein said querying comprises an opinion poll.

126. An API as recited by claim 100, wherein said querying is limited to a portion of said enrolled participants.

127. An API as recited by claim 100, wherein said querying step is accomplished by at least one display visible to said participants.

128. An API as recited by claim 100, wherein said display comprises a large-scale video display.

129. An API as recited by claim 100, wherein said querying step is accomplished by a notice audible to said enrolled participants.

130. An API as recited by claim 100, further comprising the step of awarding a prize to at least one of said participants who has entered an answer in response to said querying.

131. An API as recited by claim 130, wherein said prize is delivered to said enrolled participant.

132. An API as recited by claim 130, wherein said prize is transferred electronically to said enrolled participant.

133. An API as recited by claim 100, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

134. An API as recited by claim 100, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

135. An API as recited by claim 100, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

136. An API as recited by claim 100, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

137. An API as recited by claim 100, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

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138. An API as recited by claim 100, wherein said promotional messages include: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

139. An API as recited by claim 138, wherein said solicitation prompts said enrolled person to select and order items comprised in said desired service.

140. An API as recited by claim 100, wherein said persons are students.

141. An API as recited by claim 100, wherein said persons are faculty.

142. An API as recited by claim 100, wherein said persons are visitors.

143. An API as recited by claim 100, wherein said querying is related to a class lecture.

144. An API as recited by claim 143, wherein said class lecture is displayed on said user output interface from a remote location.

145. An API as recited by claim 100, wherein said querying comprises an interactive dating service.

146. An API as recited by claim 100, wherein said querying is related to student government issues.

147. An API as recited by claim 100, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

148. An API as recited by claim 115, wherein said demographic characteristics are related to the music type preferences of said enrolled participant.

149. An API as recited by claim 115 wherein said demographic characteristics are related to the food type preferences of said enrolled participant.

150. An API as recited by claim 115, wherein said demographic characteristics are related to the computer system preferences of said enrolled participant as between a PC and a Mac.

151. A program storage device readable by a wireless interactive device, tangibly embodying a program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said program storage device further comprises the step of awarding a prize to at least one of said participants who has entered an answer in response to said querying.

152. A program storage device as recited by claim 151, wherein said prize is delivered to said enrolled participant.

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153. A program storage as recited by claim 151, wherein said prize is transferred electronically to said enrolled participant.

154. A program storage device readable by a wireless interactive device, tangibly embodying a program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants;

wherein said program storage device further comprises the step of disseminating at least one promotional message to said enrolled participants;

said promotional message includes: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

155. A program storage device as recited by claim 154, wherein said solicitation prompts said enrolled person to select and order items comprised in said desired service.

156. A program storage device readable by a wireless interactive device, tangibly embodying a program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants;

wherein said program storage device further comprises the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface; and

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wherein said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

157. A program storage device readable by a wireless interactive device, tangibly embodying a program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants;

wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for whom said transmitted location signal is indicative of a physical location within said college campus venue.

158. A program storage device as recited by claim 157, wherein the method steps are implemented using an Application Program Interface (API).

159. A program storage device as recited by claim 157, further comprising the step of disseminating at least one promotional message to said enrolled participants.

160. A program storage device as recited by claim 157, wherein said querying is directed only to enrolled participants located within said college campus venue.

161. A program storage device as recited by claim 157, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

162. A program storage as recited by claim 157, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

163. A program storage as recited by claim 157, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

164. A program storage as recited by claim 157, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

165. A program storage as recited by claim 157, wherein said enrolling expires after a predetermined time period.

166. A program storage as recited by claim 157, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

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167. A program storage as recited by claim 157, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

168. A program storage as recited by claim 157, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus. 5

169. A program storage as recited by claim 157, further comprising the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface. 10

170. A program storage as recited by claim 157, wherein said querying step is accomplished by at least one display visible to said participants. 15

171. A program storage as recited by claim 170, wherein said display comprises a large-scale video display.

172. A program storage as recited by claim 157, wherein said querying step is accomplished by a notice audible to said enrolled participants. 20

173. A program storage as recited by claim 157, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission. 25

174. A program storage as recited by claim 157, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's. 30

175. A program storage as recited by claim 157, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet. 35

176. A program storage as recited by claim 157, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means. 40

177. A program storage as recited by claim 157, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration. 45

178. A program storage as recited by claim 157, wherein said querying is related to a class lecture. 50

179. A program storage as recited by claim 178, wherein said class lecture is displayed on said user output interface from a remote location.

180. A program storage as recited by claim 157, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

181. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for communicating with a wireless interactive device for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of: 60

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices; 65

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providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said program storage device further comprises the step of disseminating at least one promotional message to said enrolled participants; and wherein said promotional message includes: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

182. A program storage device as recited by claim 181, wherein said solicitation prompts said enrolled person to select and order items comprised in said desired service.

183. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for communicating with a wireless interactive device for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of: 30

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices; 35

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and 40

receiving answers entered by said enrolled participants; wherein said program storage device further comprises the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface. 45

184. A program storage device as recited by claim 183, wherein said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

185. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for communicating with a wireless interactive device for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of: 60

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices; 65

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providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants;

wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for whom said transmitted location signal is indicative of a physical location within said college campus venue.

186. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for communicating as recited by claim 185, wherein the method steps are implemented using an Application Program Interface (API).

187. A program storage device as recited by claim 185, further comprising the step of disseminating at least one promotional message to said enrolled participants.

188. A program storage device as recited by claim 185, wherein said querying is directed only to enrolled participants located within said college campus venue.

189. A program storage device as recited by claim 185, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

190. A program storage device as recited by claim 185, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

191. A program storage device as recited by claim 185, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

192. A program storage device as recited by claim 185, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

193. A program storage device as recited by claim 185, wherein said enrolling expires after a predetermined time period.

194. A program storage device as recited by claim 185, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

195. A program storage device as recited by claim 185, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

196. A program storage device as recited by claim 185, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

197. A program storage device as recited by claim 185, wherein said querying is limited to a portion of said enrolled participants.

198. A program storage device as recited by claim 185, wherein said querying step is accomplished by at least one display visible to said participants.

199. A program storage device as recited by claim 185, wherein said querying step is accomplished by a notice audible to said enrolled participants.

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200. A program storage device as recited by claim 185, further comprising the step of awarding a prize to at least one of said participants who has entered an answer in response to said querying.

201. A program storage device as recited by claim 185, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

202. A program storage device as recited by claim 185, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

203. A program storage device as recited by claim 185, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

204. A program storage device as recited by claim 185, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

205. A program storage device as recited by claim 185, wherein said querying is related to a class lecture.

206. A program storage device as recited by claim 185, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

207. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said API further comprises the step of relaying informational items, said items being transmitted by said wireless communication system to said wireless interactive device for output using said user output interface.

208. An API as recited by claim 207, wherein said informational items comprise items selected from the group consisting of news reports, traffic condition reports, weather conditions, weather forecasts, sports news and scores.

209. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive

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device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants;

wherein said API further comprises the step of awarding a prize to at least one of said participants who has entered an answer in response to said querying.

210. An API as recited by claim **209**, wherein said prize is delivered to said enrolled participant.

211. An API as recited by claim **209**, wherein said prize is transferred electronically to said enrolled participant.

212. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants;

wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for whom said transmitted location signal is indicative of a physical location within said college campus venue.

213. An API as recited by claim **212**, further comprising the step of disseminating at least one promotional message to said enrolled participants.

214. An API as recited by claim **212**, wherein said querying is directed only to enrolled participants located within said college campus venue.

215. An API as recited by claim **212**, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

216. An API as recited by claim **212**, further comprising the step of providing at least one kiosk or terminal at said college

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campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

217. An API as recited by claim **212**, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

218. An API as recited by claim **212**, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

219. An API as recited by claim **212**, wherein said enrolling expires after a predetermined time period.

220. An API as recited by claim **212**, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

221. An API as recited by claim **212**, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

222. An API as recited by claim **212**, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

223. An API as recited by claim **212**, wherein said querying is limited to a portion of said enrolled participants.

224. An API as recited by claim **212**, wherein said querying step is accomplished by at least one display visible to said participants.

225. An API as recited by claim **224**, wherein said display comprises a large-scale video display.

226. An API as recited by claim **212**, wherein said querying step is accomplished by a notice audible to said enrolled participants.

227. An API as recited by claim **212**, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

228. An API as recited by claim **212**, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

229. An API as recited by claim **212**, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

230. An API as recited by claim **212**, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

231. An API as recited by claim **212**, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

232. An API as recited by claim **212**, wherein said promotional messages include: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

233. An API as recited by claim **212**, wherein said querying is related to a class lecture.

234. An API as recited by claim **212**, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

235. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said

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enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said querying step is accomplished by a notice audible to said enrolled participants.

236. An API as recited by claim **235**, further comprising the step of disseminating at least one promotional message to said enrolled participants.

237. An API as recited by claim **235**, wherein said querying is directed only to enrolled participants located within said college campus venue.

238. An API as recited by claim **235**, wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for whom said transmitted location signal is indicative of a physical location within said college campus venue.

239. An API as recited by claim **235**, wherein:

a. said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device;

b. said method further comprises the step of detecting said transmitted location signal; and

c. said enrolling step is effected automatically for persons attending said college campus venue and possessing a said wireless interactive device, upon detection of said transmitted location signal indicative of a physical location within said college campus venue.

240. An API as recited by claim **235**, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

241. An API as recited by claim **235**, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

242. An API as recited by claim **235**, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

243. An API as recited by claim **235**, wherein said enrolling expires after a predetermined time period.

244. An API as recited by claim **235**, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

245. An API as recited by claim **235**, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

246. An API as recited by claim **235**, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

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247. An API as recited by claim **235**, wherein said querying is limited to a portion of said enrolled participants.

248. An API as recited by claim **235**, wherein said display comprises a large-scale video display.

249. An API as recited by claim **235**, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

250. An API as recited by claim **235**, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

251. An API as recited by claim **235**, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

252. An API as recited by claim **235**, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

253. An API as recited by claim **235**, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

254. An API as recited by claim **235**, wherein said promotional messages include: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

255. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature,

the method comprising the steps of:

enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

256. An API as recited by claim **255**, further comprising the step of disseminating at least one promotional message to said enrolled participants.

257. An API as recited by claim **255**, wherein said querying is directed only to enrolled participants located within said college campus venue.

258. An API as recited by claim **255**, wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for

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whom said transmitted location signal is indicative of a physical location within said college campus venue.

259. An API as recited by claim **255**, wherein:

- a. said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device;
- b. said method further comprises the step of detecting said transmitted location signal; and
- c. said enrolling step is effected automatically for persons attending said college campus venue and possessing a said wireless interactive device, upon detection of said transmitted location signal indicative of a physical location within said college campus venue.

260. An API as recited by claim **255**, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

261. An API as recited by claim **255**, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

262. An API as recited by claim **255**, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

263. An API as recited by claim **255**, wherein said enrolling expires after a predetermined time period.

264. An API as recited by claim **255**, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

265. An API as recited by claim **255**, wherein said querying step is accomplished by at least one display visible to said participants.

266. An API as recited by claim **265**, wherein said display comprises a large-scale video display.

267. An API as recited by claim **255**, wherein said querying step is accomplished by a notice audible to said enrolled participants.

268. An API as recited by claim **255**, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

269. An API as recited by claim **255**, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

270. An API as recited by claim **255**, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

271. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

- enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

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providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said querying is related to student government issues.

272. An API as recited by claim **271**, wherein said querying is directed only to enrolled participants located within said college campus venue.

273. An API as recited by claim **271**, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

274. An API as recited by claim **271**, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

275. An API as recited by claim **271**, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

276. An API as recited by claim **271**, wherein said querying is related to a class lecture.

277. An API as recited by claim **276**, wherein said class lecture is displayed on said user output interface from a remote location.

278. An Application Program Interface (API) for programming a wireless interactive device, with program of instructions executable by the wireless interactive device to perform method steps for enabling interactive participation by enrolled participants during activity occurring at a college campus venue attended by a plurality of persons, said enrolled participants employing the wireless interactive device having a unique signature associated therewith and capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; (iii) output messages to a user output interface; and (iv) transmit said unique signature, the method comprising the steps of:

- enrolling at least some of said persons as enrolled participants, each being equipped with one of said wireless interactive devices;

providing a wireless communication system adapted to transmit and receive messages with said interactive device;

querying said enrolled participants to respond to at least one query with an answer entered through said user input interface and transmitted by said interactive device; and

receiving answers entered by said enrolled participants; wherein said promotional messages include: (i) a solicitation for enrolled persons to make a reservation for provision at a future time of a desired service; and (ii) a notification thereafter of the availability of said desired service.

279. An API as recited by claim **278**, further comprising the step of disseminating at least one promotional message to said enrolled participants.

280. An API as recited by claim **278**, wherein said querying is directed only to enrolled participants located within said college campus venue.

281. An API as recited by claim **278**, wherein said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device, said method further comprises the step of detecting said transmitted location signal and wherein said querying is directed only to enrolled participants for

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whom said transmitted location signal is indicative of a physical location within said college campus venue.

282. An API as recited by claim **278**, wherein:

- a. said wireless interactive device further comprises localization circuitry adapted to transmit a location signal indicative of a physical location of said device;
- b. said method further comprises the step of detecting said transmitted location signal; and
- c. said enrolling step is effected automatically for persons attending said college campus venue and possessing a said wireless interactive device, upon detection of said transmitted location signal indicative of a physical location within said college campus venue.

283. An API as recited by claim **278**, wherein said enrolling comprises receipt of a request transmitted by one or more of said persons requesting enrollment as participants.

284. An API as recited by claim **278**, further comprising the step of providing at least one kiosk or terminal at said college campus venue, said kiosk or terminal being adapted to accept requests for enrollment of said persons as said enrolled participants.

285. An API as recited by claim **278**, wherein said enrolling further comprises receipt of an activation code entered using said user input interface of said wireless interactive device.

286. An API as recited by claim **278**, wherein said enrolling is terminated upon the departure of said participant from said college campus venue.

287. An API as recited by claim **278**, wherein said enrolling expires after a predetermined time period.

288. An API as recited by claim **278**, wherein said unique signature comprises indicia entered into said wireless interactive devices using the user input interface thereof.

289. An API as recited by claim **278**, further comprising collecting demographic characteristics of at least a portion of said enrolled participants.

290. An API as recited by claim **278**, further comprising the step of offering at least one incentive to induce said persons to become said enrolled participants during said activity occurring at said college campus.

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291. An API as recited by claim **278**, wherein said querying is limited to a portion of said enrolled participants.

292. An API as recited by claim **278**, wherein said querying step is accomplished by at least one display visible to said participants.

293. An API as recited by claim **292**, wherein said display comprises a large-scale video display.

294. An API as recited by claim **278**, wherein said querying step is accomplished by a notice audible to said enrolled participants.

295. An API as recited by claim **278**, wherein said wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, spread-spectrum transmission, and satellite transmission.

296. An API as recited by claim **278**, wherein said interactive device is a member selected from the group consisting of cellular telephones, two-way pagers, wireless personal digital assistants, and wireless pocket PC's.

297. An API as recited by claim **278**, wherein said wireless interactive device is Internet-enabled and at least a portion of the communications to and from said wireless interactive device is accomplished using the Internet.

298. An API as recited by claim **278**, wherein said user output interface comprises at least one of an alphanumeric text display, a graphical display, and an audio output means.

299. An API as recited by claim **278**, wherein said activity occurring at said college campus comprises at least one event having programmatic content with an identifiable duration.

300. An API as recited by claim **278**, wherein said querying is related to a class lecture.

301. An API as recited by claim **278**, wherein said querying is related to student government issues.

302. An API as recited by claim **278**, wherein said unique signature comprises a cellular phone number for the wireless interactive device.

* * * * *

EXHIBIT 22



US007856242B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 7,856,242 B2**
(45) **Date of Patent:** ***Dec. 21, 2010**

(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 170 days.

This patent is subject to a terminal dis-
claimer.

(21) Appl. No.: **12/228,908**

(22) Filed: **Aug. 18, 2008**

(65) **Prior Publication Data**

US 2009/0061917 A1 Mar. 5, 2009

Related U.S. Application Data

(63) Continuation of application No. 11/894,189, filed on
Aug. 20, 2007, now Pat. No. 7,424,304, which is a
continuation of application No. 11/542,819, filed on
Oct. 4, 2006, now Pat. No. 7,522,930, which is a con-
tinuation of application No. 11/266,783, filed on Nov.
4, 2005, now Pat. No. 7,123,930, which is a continua-
tion of application No. 10/661,871, filed on Sep. 12,
2003, now Pat. No. 6,975,878, which is a continuation
of application No. 09/854,267, filed on May 11, 2001,
now Pat. No. 6,650,903, which is a continuation of
application No. 09/656,096, filed on Sep. 6, 2000, now
Pat. No. 6,434,398.

(51) **Int. Cl.**
H04B 7/00 (2006.01)

(52) **U.S. Cl.** **455/517; 455/575.5; 463/39;**
463/40

(58) **Field of Classification Search** 455/414.2,
455/414.1, 466, 3.01-3.06, 517, 575.6; 463/36-42;
434/350, 362, 323, 322; 273/460; 705/10,
705/14, 27, 29; 725/24, 32, 74, 86

See application file for complete search history.

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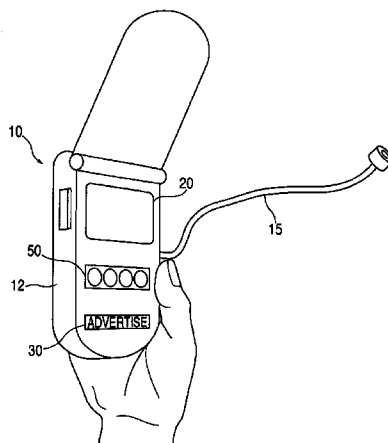
Primary Examiner—Jean A Gelin

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Ernest D. Buff; Aniket Patel

(57) **ABSTRACT**

The present invention relates to a method for providing inter-
active audience participation at live entertainment events. The
method includes providing audience members with an inter-
active device that presents a promotional message and
includes a user interface, broadcasting audio programming to
the audience member through the interactive device, querying
the audience members, wherein answers to the querying may
be entered by the audience member via the user interface of
the interactive device, transmitting the answers to a central
processor, storing the answers as audience data, processing
the audience data into results, storing the results of the pro-
cessing of the audience data and broadcasting the results of
the processing of the audience data.

94 Claims, 2 Drawing Sheets



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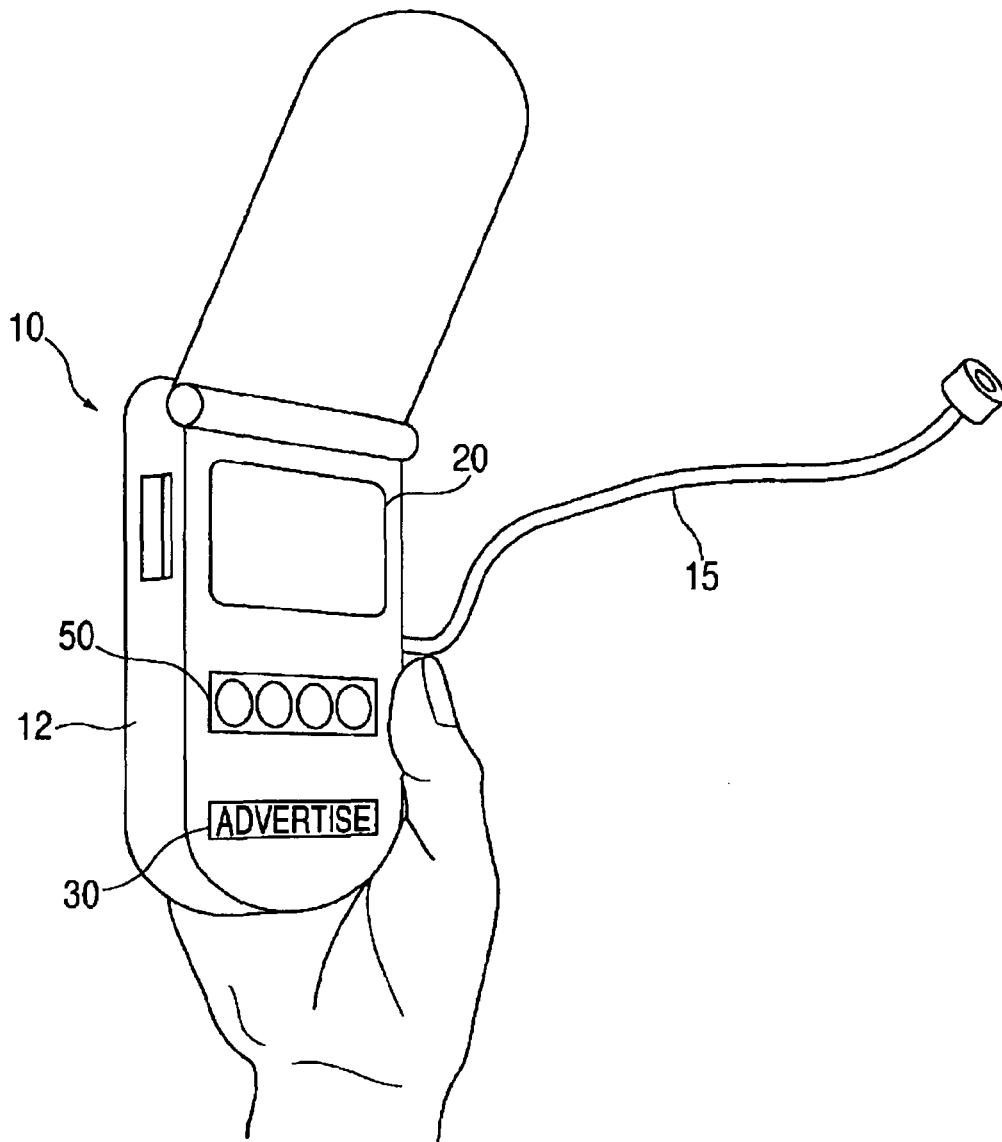
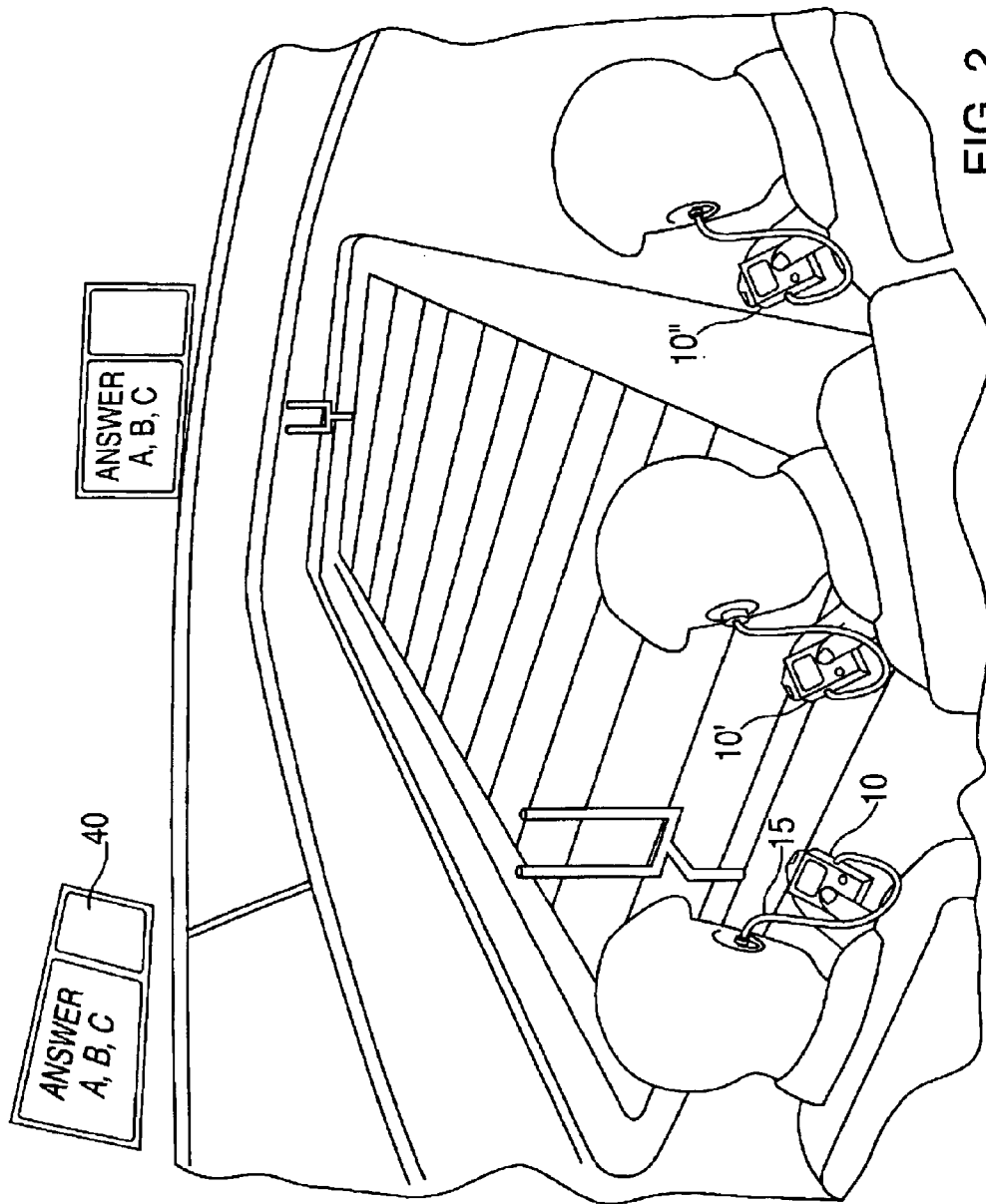


FIG. 1



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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's U.S. patent application Ser. No. 11/894,189, filed Aug. 20, 2007 now U.S. Pat. No. 7,424,304 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 11/542,819, filed Oct. 4, 2006 now U.S. Pat. No. 7,522,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005 and is now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, now U.S. Pat. No. 6,975,878, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

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One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be

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awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention; and

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device **10** adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device **10** includes a housing **12** with an electronic display opening. The device **10** preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece **15** is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

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An electronic display (visual display) **20** is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device **10** preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia **30** located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display **20** of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display **30**, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface **50** on the device **10** allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device **10** or a large screen display **40** remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device **10**, **10'** and **10"**. FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting

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a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A program storage device readable by machine, tangibly embodying instructions executable by the machine to allow the machine to interface with a system for enabling interactive participation by audience members viewing a live entertainment event at a venue, the machine having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

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a wireless communication system adapted to transmit and receive messages with the interactive device;

a means for querying the audience members to respond to at least one query with answers entered through the user interface and transmitted by the interactive device;

a means for receiving the answers at a central processing station or distributed processing stations;

a means for storing the received answers as audience data; a central processor adapted to receive and process the audience data into results,

wherein one or more of the audience members are physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

2. A program storage device, as recited in claim 1 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

3. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 1.

4. A program storage device, as recited in claim 1, wherein the place is a concession stand.

5. A program storage device, as recited in claim 1, wherein the place is a restroom.

6. A program storage device, as recited in claim 1, wherein the place is a parking lot that services the venue.

7. A program storage device, as recited in claim 1, wherein the place is a remote stadium.

8. A program storage device, as recited in claim 1, wherein the place is a convention hall.

9. A program storage device, as recited in claim 1, wherein the place is a restaurant.

10. A program storage device, as recited in claim 1, wherein the place is a bar.

11. A program storage device, as recited in claim 1, wherein the place is a house.

12. A program storage device, as recited in claim 1, wherein the place is a restroom within the house.

13. A program storage device, as recited in claim 1, wherein the place is a living room within the house.

14. A program storage device, as recited in claim 1, wherein the place is a kitchen within the house.

15. A program storage device, as recited in claim 1, wherein the place is a bedroom within the house.

16. A program storage device, as recited in claim 1, further comprising means for broadcasting the results to the audience members.

17. A program storage device, as recited in claim 1, further comprising means for disseminating least one promotional message of a sponsor to the audience members through the electronic display.

18. A program storage device, as recited in claim 17, further comprising means for providing the results to the sponsor.

19. A program storage device, as recited in claim 1, wherein the querying means comprises use of the interactive device.

20. A program storage device, as recited in claim 1, wherein the querying means comprises at least one large screen display visible to audience members in the venue.

21. A program storage device, as recited in claim 1, wherein the querying means comprises a stadium monitor system visible to audience members in the venue.

22. A program storage device, as recited in claim 16, wherein the broadcasting means comprises at least one large screen display visible to audience members in the venue.

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23. A program storage device, as recited in claim 16, wherein the broadcasting means comprises a stadium monitor system visible to audience members in the venue.

24. A program storage device, as recited in claim 1, further comprising at least one prize appointed to be awarded to at least one of the audience members.

25. A program storage device, as recited in claim 1, wherein the wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, and satellite transmission.

26. A program storage device, as recited in claim 1, further comprising means for broadcasting messages from the interactive device of one of the participating audience members to the interactive device of another of the participating audience members.

27. A program storage device, as recited in claim 1, wherein each of the interactive devices has a unique address programmed therein.

28. A program storage device, as recited in claim 1, further comprising means for providing audio transmission of audible programming to the interactive devices, the audible programming comprising at least one of play-by-play, expert commentary, traffic reports, and weather reports.

29. A program storage device, as recited in claim 1, wherein the venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

30. A program storage device readable by machine, tangibly embodying a set of instructions executable by the machine to perform one or more steps of a method for enabling interactive audience participation at a live entertainment event at a venue viewed by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of:

querying the participating audience members;
receiving answers to the querying entered by the participating audience members via the user interface of the interactive device;

transmitting the answers to a central processor;
processing the answers into results; and
broadcasting the results to the plurality of participating audience members viewing the live entertainment event, wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

31. A program storage device, as recited in claim 30 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

32. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 30.

33. A program storage device, as recited in claim 30, wherein the place is a concession stand.

34. A program storage device, as recited in claim 30, wherein the place is a restroom.

35. A program storage device, as recited in claim 30, wherein the place is a parking lot that services the venue.

36. A program storage device, as recited in claim 30, wherein the place is a remote stadium.

37. A program storage device, as recited in claim 30, wherein the place is a convention hall.

38. A program storage device, as recited in claim 30, wherein the place is a restaurant.

39. A program storage device, as recited in claim 30, wherein the place is a bar.

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40. A program storage device, as recited in claim 30, wherein the place is a house.

41. A program storage device, as recited in claim 30, wherein the place is a restroom within the house.

42. A program storage device, as recited in claim 30, wherein the place is a living room within the house.

43. A program storage device, as recited in claim 30, wherein the place is a kitchen within the house.

44. A program storage device, as recited in claim 30, wherein the place is a bedroom within the house.

45. A program storage device, as recited in claim 30, wherein the wireless interactive device employs a form of wireless communications selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

46. A program storage device, as recited in claim 30, further comprising the step of presenting a promotional message to each participating audience member.

47. A program storage device, as recited in claim 46, wherein the promotional message is imprinted on the device.

48. A program storage device, as recited in claim 46, wherein the promotional message is transmitted wirelessly to the interactive device and is presented to the participating audience member either visually or aurally.

49. A program storage device, as recited in claim 46, wherein the promotional message is pre-programmed in the interactive device.

50. A program storage device, as recited in claim 30, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

51. A program storage device, as recited in claim 50, wherein the awarding of prizes is accomplished by electronic delivery.

52. A program storage device, as recited in claim 50, wherein the awarding of prizes is accomplished by direct delivery to the at least one selected audience member.

53. A program storage device, as recited in claim 30, wherein the interactive device is adapted to allow the broadcasting of messages from one of the participating audience members to another of the participating audience members.

54. A program storage device, as recited in claim 30, wherein each interactive device has a unique address programmed therein.

55. A program storage device, as recited in claim 30, wherein the answers are received at a central processing station and thereafter transmitted to the central processor.

56. A program storage device, as recited in claim 30, wherein the answers are received at distributed processing stations and thereafter transmitted to the central processor.

57. A program storage device, as recited in claim 30, wherein the live entertainment event is a sporting event.

58. A program storage device, as recited in claim 30, wherein the live entertainment event is conducted at a live entertainment venue.

59. A program storage device, as recited in claim 30, wherein the live entertainment venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

60. A program storage device, as recited in claim 30, wherein the step of querying comprises use of a large screen display.

61. A program storage device, as recited in claim 30, wherein the step of querying comprises use of a stadium monitor system.

62. A program storage device, as recited in claim 30, wherein the step of querying comprises use of the interactive device.

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63. A program storage device, as recited in claim 30, wherein the step of broadcasting comprises use of a large screen display.

64. A program storage device, as recited in claim 30, wherein the step of broadcasting comprises use of a stadium monitor system.

65. A program storage device, as recited in claim 30, wherein the step of broadcasting comprises use of the interactive device.

66. A program storage device readable by machine, tangibly embodying a set of instructions, executable by the machine, to perform a method for interactive audience participation at a live entertainment event viewed by audience members, a plurality of whom have a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one promotional message from a sponsor;

querying the audience members;

receiving answers to the querying entered via the user interface of the interactive device;

transmitting the answers to a processor;

processing the answers into results; and

providing the results to the sponsor,

wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

67. A program storage device, as recited in claim 66 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

68. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 66.

69. A program storage device, as recited in claim 66, wherein the place is a concession stand.

70. A program storage device, as recited in claim 66, wherein the place is a restroom.

71. A program storage device, as recited in claim 66, wherein the place is a parking lot that services the venue.

72. A program storage device, as recited in claim 66, wherein the place is a remote stadium.

73. A program storage device, as recited in claim 66, wherein the place is a convention hall.

74. A program storage device, as recited in claim 66, wherein the place is a restaurant.

75. A program storage device, as recited in claim 66, wherein the place is a bar.

76. A program storage device, as recited in claim 66, wherein the place is a house.

77. A program storage device, as recited in claim 66, wherein the place is a restroom within the house.

78. A program storage device, as recited in claim 66, wherein the place is a living room within the house.

79. A program storage device, as recited in claim 66, wherein the place is a kitchen within the house.

80. A program storage device, as recited in claim 66, wherein the place is a bedroom within the house.

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81. A program storage device, as recited in claim 66, further comprising the step of broadcasting the results to the audience members viewing the live entertainment event.

82. A program storage device, as recited in claim 66, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

83. A program storage device, as recited in claim 66, further comprising the step of presenting a promotional message.

84. A program storage device, as recited in claim 66, wherein the step of querying comprises use of a large screen display.

85. A program storage device, as recited in claim 66, wherein the step of querying comprises use of the interactive device.

86. A program storage device, as recited in claim 66, wherein the step of querying comprises use of a stadium monitor system.

87. A program storage device, as recited in claim 81, wherein the step of broadcasting the results comprises use of the large screen display.

88. A program storage device, as recited in claim 81, wherein the step of broadcasting the results comprises use of a stadium monitor system.

89. A program storage device, as recited in claim 81, wherein the step of broadcasting the results comprises use of the interactive device.

90. A program storage device, as recited in claim 66, wherein the live entertainment event is a sporting event.

91. A program storage device, as recited in claim 66, wherein the live entertainment event is conducted at a live entertainment venue.

92. A program storage device, as recited in claim 91, wherein the live entertainment venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

93. A program storage device, as recited in claim 91, wherein the live entertainment venue is a theme park.

94. A program storage device readable by machine, tangibly embodying a set of instructions executable by the machine to perform one or more steps of a method for enabling interactive audience participation at a live entertainment event at a venue viewed by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of:

querying the participating audience members;

receiving answers to the querying entered by the participating audience members via the user interface of the interactive device;

transmitting the answers to a central processor;

processing the answers into results; and

broadcasting the results to the plurality of participating audience members viewing the live entertainment event, wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

* * * * *

EXHIBIT 23



US007860523B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 7,860,523 B2**
(45) **Date of Patent:** ***Dec. 28, 2010**

(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 659 days.

This patent is subject to a terminal dis-
claimer.

(21) Appl. No.: **11/894,163**

(22) Filed: **Aug. 20, 2007**

(65) **Prior Publication Data**

US 2007/0287489 A1 Dec. 13, 2007

Related U.S. Application Data

(63) Continuation of application No. 11/542,819, filed on
Oct. 4, 2006, now Pat. No. 7,522,930, which is a con-
tinuation of application No. 11/266,783, filed on Nov.
4, 2005, now Pat. No. 7,123,930, which is a continua-
tion of application No. 10/661,871, filed on Sep. 12,
2003, now Pat. No. 6,975,878, which is a continuation
of application No. 09/854,267, filed on May 11, 2001,
now Pat. No. 6,650,903, which is a continuation of
application No. 09/656,096, filed on Sep. 6, 2000, now
Pat. No. 6,434,398.

(51) **Int. Cl.**
H04B 7/00 (2006.01)

(52) **U.S. Cl.** **455/517**; 455/575.5; 463/39;
463/40

(58) **Field of Classification Search** 455/414.2,
455/414.1, 466, 3.01–3.06, 517, 575.6; 463/36–42;
434/350, 362, 323, 322; 273/460; 705/10,
705/14, 27, 29; 725/24, 32, 74, 86

See application file for complete search history.

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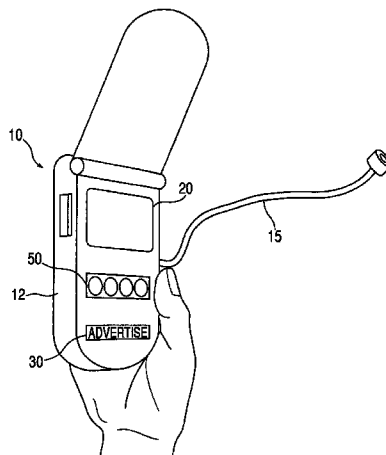
Primary Examiner—Jean A Gelin

(74) *Attorney, Agent, or Firm*—Ernest D. Buff & Associates
LLC; Ernest D. Buff

(57) **ABSTRACT**

The present invention relates to a method for providing inter-
active audience participation at live entertainment events. The
method includes providing audience members with an inter-
active device that presents a promotional message and
includes a user interface, broadcasting audio programming to
the audience member through the interactive device, querying
the audience members, wherein answers to the querying may
be entered by the audience member via the user interface of
the interactive device, transmitting the answers to a central
processor, storing the answers as audience data, processing
the audience data into results, storing the results of the pro-
cessing of the audience data and broadcasting the results of
the processing of the audience data.

47 Claims, 2 Drawing Sheets



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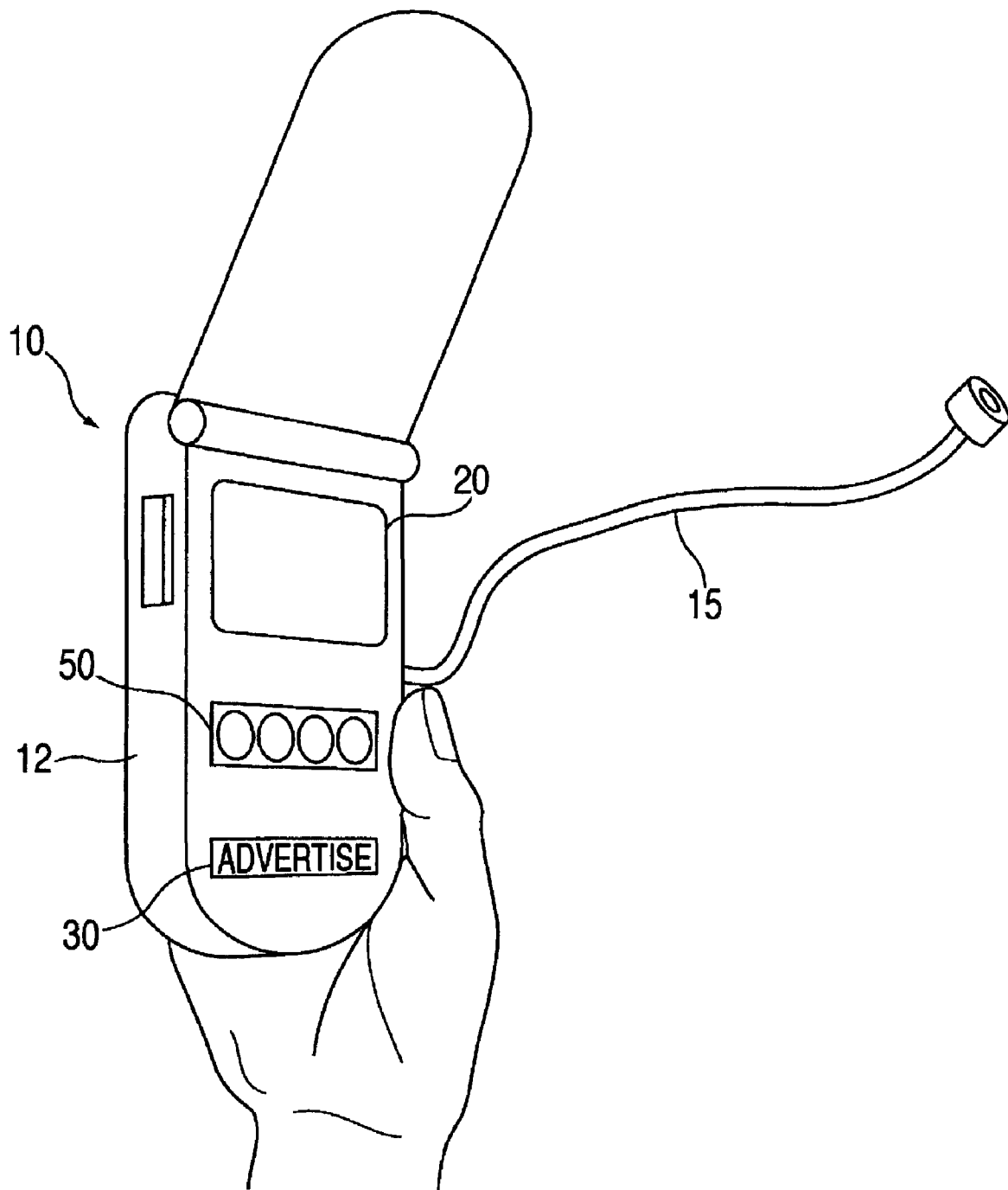


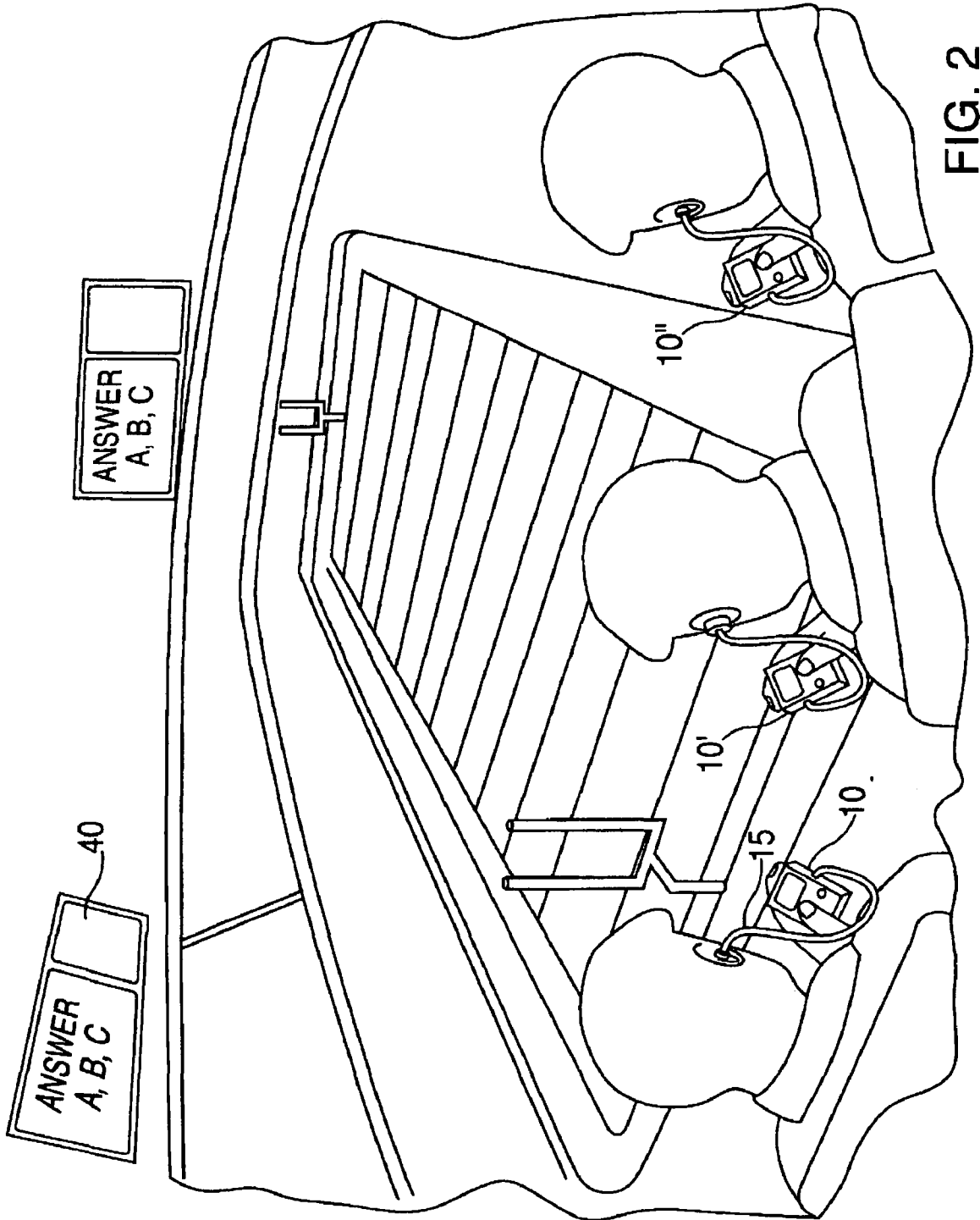
FIG. 1

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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's U.S. patent application Ser. No. 11/542,819, filed Oct. 4, 2006 now U.S. Pat. No. 7,522,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005 now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, now U.S. Pat. No. 6,975,878, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the con-

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cession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be

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delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention.

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device 10 adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device 10 includes a housing 12 with an electronic display opening. The device 10 preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece 15 is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) 20 is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in

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electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device 10 preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia 30 located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display 20 of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display 30, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface 50 on the device 10 allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device 10 or a large screen display 40 remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device 10, 10' and 10". FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be

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completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A system for enabling interactive participation by audience members attending a live entertainment event at an expansive outdoor/indoor venue and employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

a wireless communication system configured to transmit and receive messages with the interactive device;

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means for querying the audience members to respond to at least one query with answers entered through the user interface and transmitted by the interactive device;
means for receiving the answers at a central processing station or distributed processing stations;
means for storing the received answers as audience data; a central processor configured to receive and process the audience data into results; and
wherein the expansive outdoor/indoor venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

2. The system of claim 1, further comprising means for broadcasting the results to the audience members.

3. The system of claim 1, further comprising means for disseminating least one promotional message of a sponsor to the audience members through the electronic display.

4. The system of claim 3, further comprising means for providing the results to the sponsor.

5. The system of claim 1, wherein the querying means comprises at least one large screen display visible to audience members in the expansive outdoor/indoor venue.

6. The system of claim 1, wherein the querying means comprises a stadium monitor system visible to audience members in the expansive outdoor/indoor venue.

7. The system of claim 2, wherein the broadcasting means comprises at least one large screen display visible to audience members in the expansive outdoor/indoor venue.

8. The system of claim 2, wherein the broadcasting means comprises a stadium monitor system visible to audience members in the expansive outdoor/indoor venue.

9. The system of claim 1, further comprising at least one prize appointed to be awarded to at least one of the audience members.

10. The system of claim 1, wherein the wireless communications system transmits and receives using at least one transmission form selected from the group consisting of radio transmission, microwave transmission, broadband wireless data transmission, ultra-wide band transmission, and satellite transmission.

11. The system of claim 1, further comprising means for broadcasting messages from the interactive device of one of the participating audience members to the interactive device of another of the participating audience members.

12. The system of claim 1, wherein each of the interactive devices has a unique address programmed therein.

13. The system of claim 1, further comprising means for providing audio transmission of audible programming to the interactive devices, the audible programming comprising at least one of play-by-play, expert commentary, traffic reports, and weather reports.

14. A method for enabling interactive audience participation at a live entertainment event at an expansive outdoor/indoor venue attended by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of:

querying the participating audience members;
receiving answers to the querying entered by the participating audience members via the user interface of the interactive device;
transmitting the answers to a central processor;
processing the answers into results; and
broadcasting the results to the plurality of participating audience members attending the live entertainment event; and

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wherein the expansive outdoor/indoor venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

15. The method of claim 14, wherein the wireless interactive device employs a form of wireless communications selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

16. The method of claim 14, further comprising the step of presenting a promotional message to each participating audience member.

17. The method of claim 16, wherein the promotional message is imprinted on the device.

18. The method of claim 16, wherein the promotional message is transmitted wirelessly to the interactive device and is presented to the participating audience member either visually or aurally.

19. The method of claim 16, wherein the promotional message is pre-programmed in the interactive device.

20. The method of claim 14, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

21. The method of claim 20, wherein the awarding of prizes is accomplished by electronic delivery.

22. The method of claim 20, wherein the awarding of prizes is accomplished by direct delivery to the at least one selected audience member.

23. The method of claim 14, wherein the interactive device is configured to allow the broadcasting of messages from one of the participating audience members to another of the participating audience members.

24. The method of claim 14, wherein each interactive device has a unique address programmed therein.

25. The method of claim 14, wherein the answers are received at a central processing station and thereafter transmitted to the central processor.

26. The method of claim 14, wherein the answers are received at distributed processing stations and thereafter transmitted to the central processor.

27. The method of claim 14, wherein the live entertainment event is a sporting event.

28. The method of claim 14, wherein the live entertainment event is conducted at a live entertainment venue.

29. The method of claim 14 wherein the step of querying comprises use of a large screen display.

30. The method of claim 14 wherein the step of querying comprises use of a stadium monitor system.

31. The method of claim 14, wherein the step of querying comprises use of the interactive device.

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32. The method of claim 14 wherein the step of broadcasting comprises use of a large screen display.

33. The method of claim 14 wherein the step of broadcasting comprises use of a stadium monitor system.

34. The method of claim 14, wherein the step of broadcasting comprises use of the interactive device.

35. A method for interactive audience participation at a live entertainment event at an expansive outdoor/indoor venue attended by audience members, a plurality of whom have a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one promotional, message from a sponsor;

querying the audience members;

receiving answers to the querying entered via the user interface of the interactive device;

transmitting the answers to a processor;

processing the answers into results; and

providing the results to the sponsor;

wherein the expansive outdoor/indoor venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

36. The method of claim 35, further comprising the step of broadcasting the results to the audience members attending the live entertainment event.

37. The method of claim 35, further comprising the step of awarding prizes to at least one selected audience member who has answered the querying.

38. The method of claim 35, further comprising the step of presenting a promotional message.

39. The method of claim 35 wherein the step of querying comprises use of a large screen display.

40. The method of claim 35, wherein the step of querying comprises use of the interactive device.

41. The method of claim 35, wherein the step of querying comprises use of a stadium monitor system.

42. The method of claim 36, wherein the step of broadcasting the results comprises use of the large screen display.

43. The method of claim 36, wherein the step of broadcasting the results comprises use of a stadium monitor system.

44. The method of claim 36, wherein the step of broadcasting the results comprises use of the interactive device.

45. The method of claim 35, wherein the live entertainment event is a sporting event.

46. The method of claim 35, wherein the live entertainment event is conducted at a live entertainment venue.

47. The method of claim 35, wherein the expansive outdoor/indoor venue is a theme park.

* * * * *

EXHIBIT 24



US008023977B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 8,023,977 B2**

(45) **Date of Patent:** ***Sep. 20, 2011**

(54) **METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT**

(75) Inventor: **Eric Inselberg**, Short Hills, NJ (US)

(73) Assignee: **Inselberg Interactive, LLC**, Short Hills, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/927,581**

(22) Filed: **Nov. 18, 2010**

(65) **Prior Publication Data**

US 2011/0070916 A1 Mar. 24, 2011

Related U.S. Application Data

(63) Continuation of application No. 12/228,908, filed on Aug. 18, 2008, now Pat. No. 7,856,242, which is a continuation of application No. 11/894,189, filed on Aug. 20, 2007, now Pat. No. 7,424,304, which is a continuation of application No. 11/542,819, filed on Oct. 4, 2006, now Pat. No. 7,522,930, which is a continuation of application No. 11/266,783, filed on Nov. 4, 2005, now Pat. No. 7,123,930, which is a continuation of application No. 10/661,871, filed on Sep. 12, 2003, now Pat. No. 6,975,878, which is a continuation of application No. 09/854,267, filed on May 11, 2001, now Pat. No. 6,650,903, which is a continuation of application No. 09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,398.

(51) **Int. Cl.**
H04B 7/00 (2006.01)

(52) **U.S. Cl.** **455/517; 455/575.5; 463/39; 463/40**

(58) **Field of Classification Search** 455/414.2, 455/414.1, 466, 3.01–3.06, 517, 575.6; 463/36–42; 434/350, 362, 323, 322; 273/460; 705/10, 705/14, 27, 29; 725/24, 32, 74, 86
See application file for complete search history.

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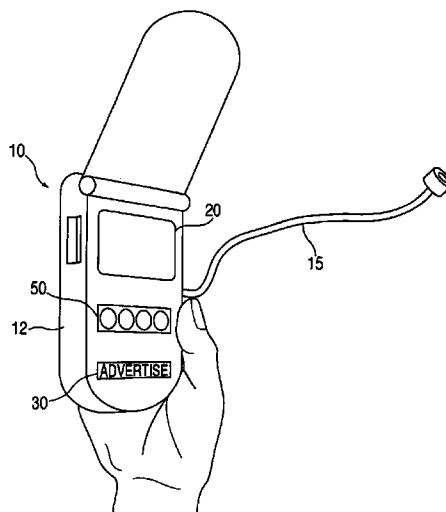
Primary Examiner — Jean Gelin

(74) *Attorney, Agent, or Firm* — Ernest D. Buff; Ernest D. Buff & Associates, LLC; Aniket Patel

(57) **ABSTRACT**

The present invention relates to a method for providing interactive audience participation at live entertainment events. The method includes use of an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.

20 Claims, 2 Drawing Sheets



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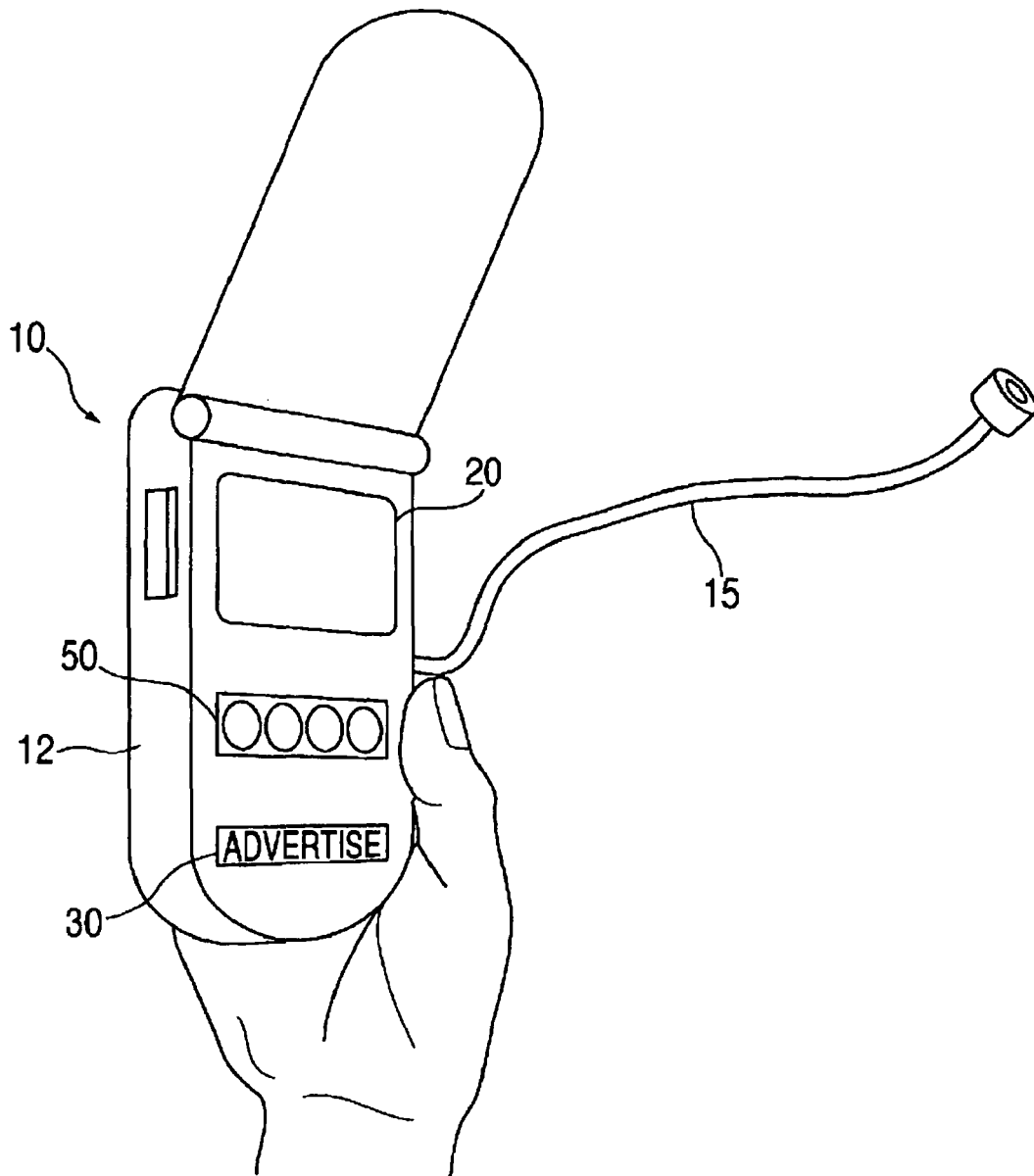


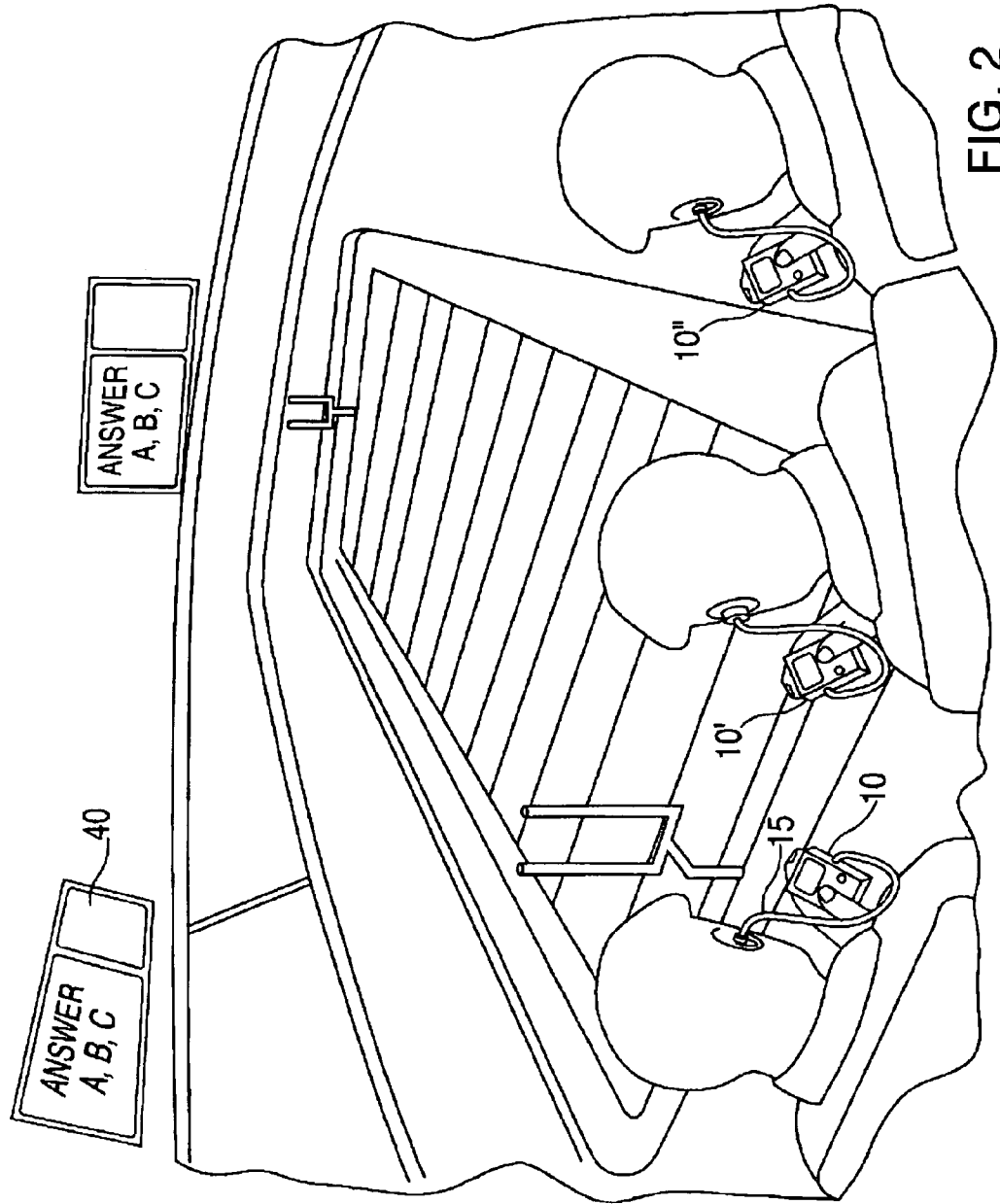
FIG. 1

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Sep. 20, 2011

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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's U.S. patent application Ser. No. 12/228,908, filed Aug. 18, 2008 now U.S. Pat. No. 7,856,242 which, in turn, is a continuation of U.S. patent application Ser. No. 11/894,189, filed Aug. 20, 2007 now U.S. Pat. No. 7,424,304 which, in turn, is a continuation of U.S. patent application Ser. No. 11/542,819, filed Oct. 4, 2006 now U.S. Pat. No. 7,522,930 which, in turn, is a continuation of U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005 and is now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, now U.S. Pat. No. 6,975,878, which, in turn, is a continuation of U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

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One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be

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awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention; and

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device **10** adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device **10** includes a housing **12** with an electronic display opening. The device **10** preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece **15** is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

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An electronic display (visual display) **20** is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device **10** preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia **30** located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display **20** of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display **30**, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface **50** on the device **10** allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device **10** or a large screen display **40** remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device **10**, **10'** and **10"**. FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting

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a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A program storage device readable by machine, tangibly embodying instructions executable by the machine to allow the machine to interface with a system for enabling interactive participation by audience members viewing a live entertainment event at a venue, the machine having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

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a wireless communication system adapted to transmit and receive messages with the interactive device;

a means for interacting with the audience members that allows audience members to respond to at least one displayed message with feedback entered through the user interface and transmitted by the interactive device;

a means for receiving the feedback at a central processing station or distributed processing stations;

a means for storing the received feedback as audience data; a central processor adapted to receive and process the audience data into results,

wherein one or more of the audience members are physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

2. A program storage device, as recited in claim 1 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

3. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 1.

4. A program storage device, as recited in claim 1, wherein the place is a parking lot that services the venue.

5. A program storage device, as recited in claim 1, wherein the place is a remote stadium.

6. A program storage device, as recited in claim 1, wherein the place is a convention hall.

7. A program storage device, as recited in claim 1, wherein the place is a restaurant.

8. A program storage device, as recited in claim 1, wherein the place is a bar.

9. A program storage device, as recited in claim 1, wherein the place is a house.

10. A program storage device, as recited in claim 1, further comprising means for broadcasting the results to the audience members.

11. A program storage device, as recited in claim 1, further comprising means for disseminating least one promotional message of a sponsor to the audience members through the electronic display.

12. A program storage device, as recited in claim 1, wherein the interacting means comprises use of the interactive device.

13. A program storage device, as recited in claim 1, wherein the interacting means comprises at least one large screen display visible to audience members in the venue.

14. A program storage device readable by machine, tangibly embodying a set of instructions executable by the machine to perform one or more steps of a method for enabling interactive audience participation at a live entertainment event at a venue viewed by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of:

communicating interactively with the participating audience members;

receiving feedback entered by the participating audience members via the user interface of the interactive device;

transmitting the feedback to a central processor;

processing the feedback into results; and

broadcasting the results to the plurality of participating audience members viewing the live entertainment event, wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

15. A program storage device, as recited in claim 14 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

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16. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 15.

17. A program storage device readable by machine, tangibly embodying a set of instructions, executable by the machine, to perform a method for interactive audience participation at a live entertainment event viewed by audience members, a plurality of whom have a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one promotional message from a sponsor;

allowing audience members to respond to said promotional message with feedback;

receiving feedback to the querying entered via the user interface of the interactive device;

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transmitting the feedback to a processor;
processing the feedback into results; and
providing the results to the sponsor,

wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

18. A program storage device, as recited in claim 17 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

19. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 17.

20. A program storage device, as recited in claim 17, further comprising the step of broadcasting the results to the audience members viewing the live entertainment event.

* * * * *

EXHIBIT 25

US008131279B2

(12) **United States Patent**
Inselberg(10) **Patent No.:** **US 8,131,279 B2**
(45) **Date of Patent:** ***Mar. 6, 2012**(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**434/350, 362, 323, 322; 273/460; 705/10,
705/14, 27, 29; 725/24, 32, 74, 86

See application file for complete search history.

(75) Inventor: **Eric Inselberg**, Short Hills, NJ (US)(56) **References Cited**(73) Assignee: **Inselberg Interactive, LLC**, Short Hills,
NJ (US)

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

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This patent is subject to a terminal dis-
claimer.

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(21) Appl. No.: **12/927,580**

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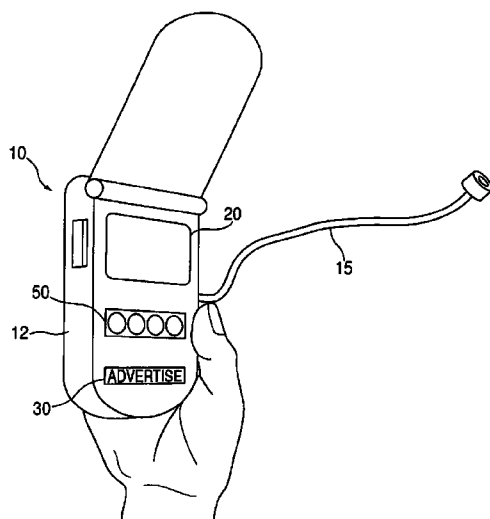
(22) Filed: **Nov. 18, 2010**Claims chart, Created by Van Dyke, Gardner, Linn & Burkart LLP,
2851 Charlevoix Drive S. E., Grand Rapids, Michigan 49588-8695
www.vglb.com.(65) **Prior Publication Data**

US 2011/0189942 A1 Aug. 4, 2011

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Related U.S. Application Data(63) Continuation of application No. 11/894,163, filed on
Aug. 20, 2007, now Pat. No. 7,860,523, which is a
continuation of application No. 11/542,819, filed on
Oct. 4, 2006, now Pat. No. 7,522,930, which is a
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May 11, 2001, now Pat. No. 6,650,903, which is a
continuation of application No. 09/656,096, filed on
Sep. 6, 2000, now Pat. No. 6,434,398.*Primary Examiner* — Jean Gelin(74) *Attorney, Agent, or Firm* — Ernest D. Buff; Ernest D.
Buff & Associates LLC(57) **ABSTRACT**

The present invention relates to methods and systems for providing interactive audience participation at live entertainment events. The method includes providing audience members with an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.

20 Claims, 2 Drawing Sheets(51) **Int. Cl.****H04M 3/42** (2006.01)(52) **U.S. Cl.** **455/417; 455/575.6; 463/36**(58) **Field of Classification Search** 455/414.2,
455/414.1, 466, 3.01–3.06, 517, 575.6; 463/36–42;

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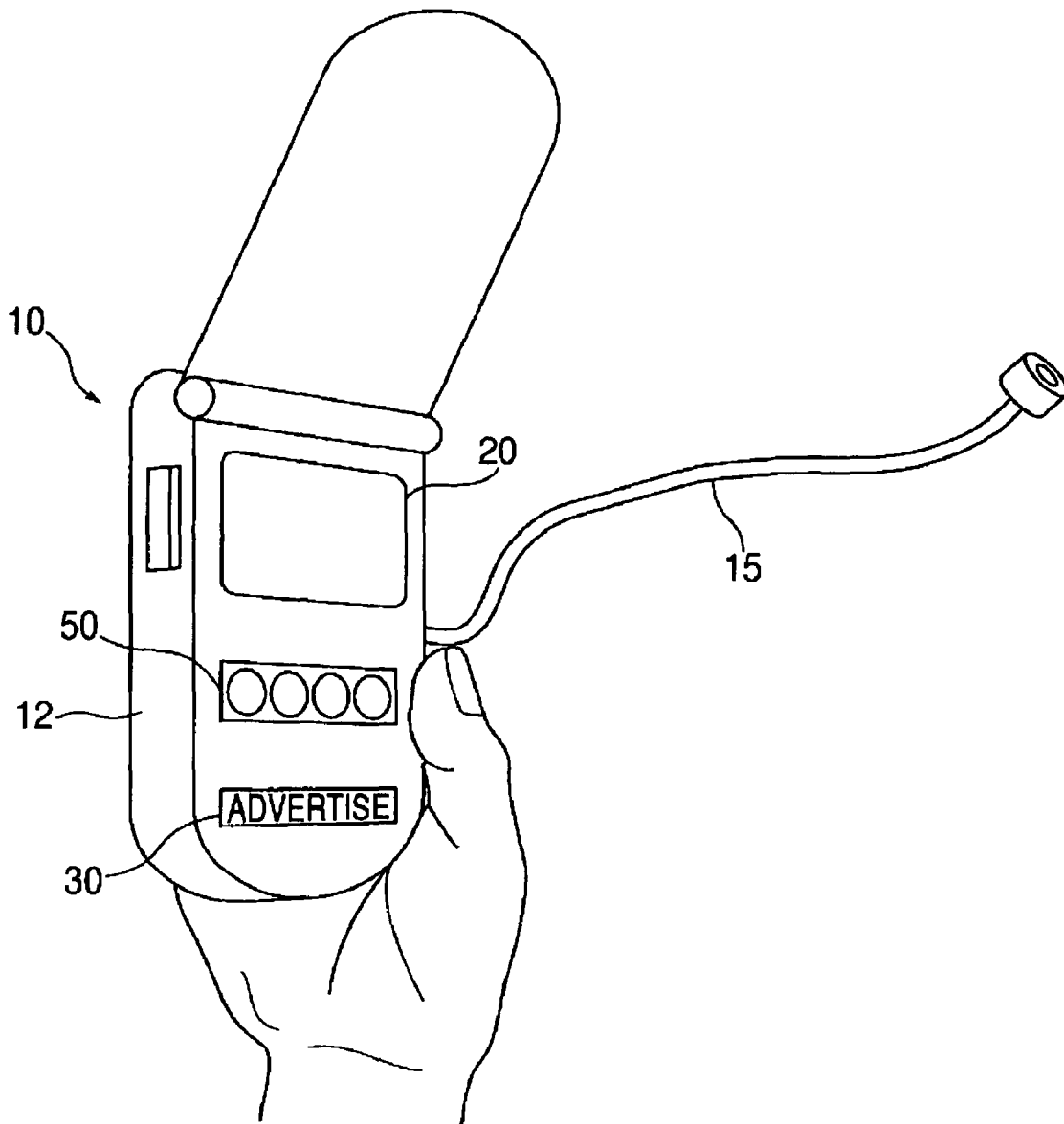


FIG. 1

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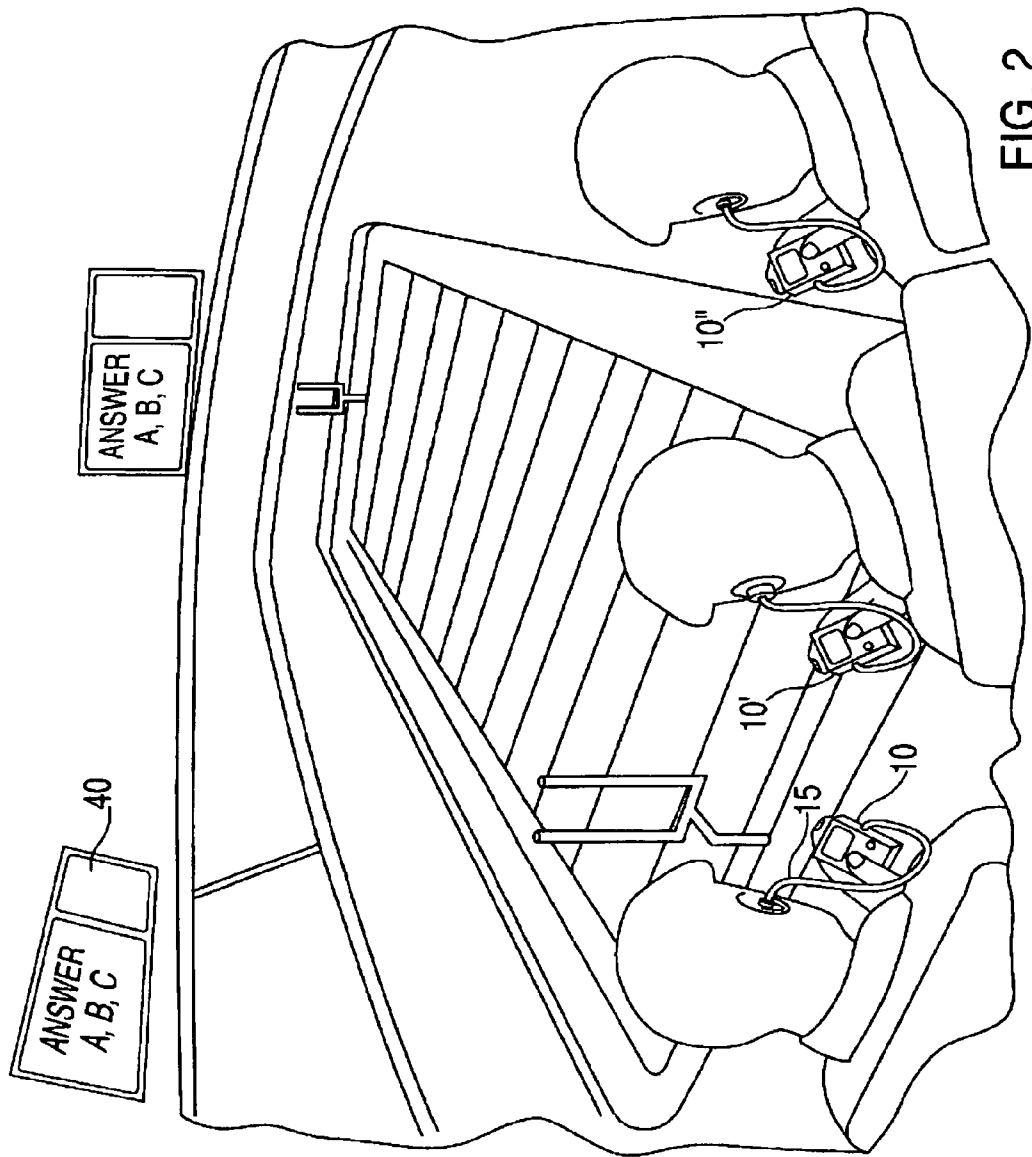


FIG. 2

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One example of a venue that would benefit from enhanced audience participation is major league baseball. The games

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last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be

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delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention.

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device 10 adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device 10 includes a housing 12 with an electronic display opening. The device 10 preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece 15 is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) 20 is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in

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electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device 10 preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia 30 located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display 20 of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display 30, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface 50 on the device 10 allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device 10 or a large screen display 40 remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device 10, 10' and 10". FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be

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completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A system for enabling interactive participation by audience members attending a live entertainment event at an expansive outdoor/indoor venue and employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

- a wireless communication system configured to transmit and receive messages with the interactive device;
- a means for presenting the audience members with an opportunity to respond to at least one request for inter-

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action with responses entered through the user interface and transmitted by the interactive device;

a means for receiving the responses at a central processing station or distributed processing stations;

a means for storing the received responses as audience data;

a central processor configured to receive and process the audience data into results; and

wherein the expansive outdoor/indoor venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

2. The system of claim 1, wherein the expansive outdoor/indoor venue is a venue where a purchase can be made.

3. The system of claim 1, further comprising means for disseminating least one promotional message of a sponsor to the audience members through the electronic display.

4. The system of claim 3, further comprising means for providing the results to the sponsor.

5. The system of claim 1, wherein the presenting means comprises a device other than the interactive device and which is perceptible to audience members in the expansive outdoor/indoor venue.

6. The system of claim 1, wherein the presenting means comprises a stadium monitor system visible to audience members in the expansive outdoor/indoor venue.

7. The system of claim 1, further comprising means for providing audio transmission of audible programming to the interactive devices.

8. A method for enabling interactive audience participation at a live entertainment event at an expansive outdoor/indoor venue attended by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of: presenting an opportunity for interaction to the participating audience members;

receiving responses to the opportunity for interaction entered by the participating audience members via the user interface of the interactive device;

transmitting the responses to a central processor;

processing the responses into results; and broadcasting the results to the plurality of participating audience members attending the live entertainment event; and

wherein the expansive outdoor/indoor venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

9. The method of claim 8, wherein the expansive outdoor/indoor venue is a venue where a purchase can be made.

10. The method of claim 8, further comprising the step of presenting a promotional message to each participating audience member.

11. The method of claim 10, wherein the promotional message is transmitted wirelessly to the interactive device and is presented to the participating audience member either visually or aurally.

12. The method of claim 8, further comprising the step of awarding a prize to at least one selected audience member who has responded.

13. The method of claim 8, wherein the wireless device employs a form of wireless communications selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

14. The method of claim 8, wherein the answers are received at distributed processing stations and thereafter transmitted to the central processor.

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15. A method for interactive audience participation at a live entertainment event at an expansive outdoor/indoor venue attended by audience members, a plurality of whom have a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one promotional message from a sponsor;

presenting an opportunity for interaction to the audience members;

receiving responses to the opportunity for interaction entered via the user interface of the interactive device;

transmitting the responses to a processor;

processing the responses into results; and

providing the results to the sponsor;

wherein the expansive outdoor/indoor venue is selected from the group consisting of stadiums, arenas, race tracks, golf courses, and theme parks.

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16. The method of claim **15**, wherein the expansive outdoor/indoor venue is a location where a purchase can be made.

17. The method of claim **15**, further comprising the step of broadcasting the results to the audience members attending the live entertainment event.

18. The method of claim **15**, further comprising the step of electronically delivering a prize to at least one selected audience member who has responded to the opportunity for interaction.

19. The method of claim **15**, wherein the step of presenting an opportunity for interaction comprises use of a large screen display.

20. The method of claim **15**, wherein the step of presenting an opportunity for interaction comprises use of a device other than the interactive device.

* * * * *

EXHIBIT 26



US008213975B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 8,213,975 B2**
(45) **Date of Patent:** ***Jul. 3, 2012**

(54) **METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT**

(75) Inventor: **Eric Inselberg**, Short Hills, NJ (US)

(73) Assignee: **Inselberg Interactive, LLC**, Short Hills, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/200,145**

(22) Filed: **Sep. 19, 2011**

(65) **Prior Publication Data**

US 2012/0034863 A1 Feb. 9, 2012

Related U.S. Application Data

(63) Continuation of application No. 12/927,581, filed on Nov. 18, 2010, now Pat. No. 8,023,977, which is a continuation of application No. 12/228,908, filed on Aug. 18, 2008, now Pat. No. 7,856,242, which is a continuation of application No. 11/894,189, filed on Aug. 20, 2007, now Pat. No. 7,424,304, which is a continuation of application No. 11/542,819, filed on Oct. 4, 2006, now Pat. No. 7,522,930, which is a continuation of application No. 11/266,783, filed on Nov. 4, 2005, now Pat. No. 7,123,930, which is a continuation of application No. 10/661,871, filed on Sep. 12, 2003, now Pat. No. 6,975,878, which is a continuation of application No. 09/854,267, filed on May 11, 2001, now Pat. No. 6,650,903, which is a continuation of application No. 09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,398.

(51) **Int. Cl.**
H04B 7/00

(2006.01)

(52) **U.S. Cl.** **455/517**; 455/456.1; 455/456.3

(58) **Field of Classification Search** 455/414.2, 455/414.1, 466, 3.01–3.06, 517, 575.6, 456.1, 455/456.2, 456.3, 456.6; 463/36–42; 434/350, 434/362, 323, 322; 273/460; 705/10, 14, 705/27, 29; 725/24, 32, 74, 86
See application file for complete search history.

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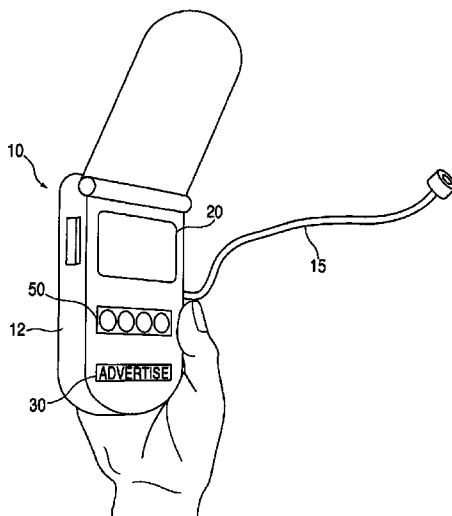
Primary Examiner — Jean Gelin

(74) *Attorney, Agent, or Firm* — Ernest D. Bluff; Ernest D. Bluff & Assoc, LLC; Margaret A. LaCroix, Esq.

(57) **ABSTRACT**

The present invention relates to a method for providing interactive audience participation at live entertainment events. The method includes use of an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.

66 Claims, 2 Drawing Sheets



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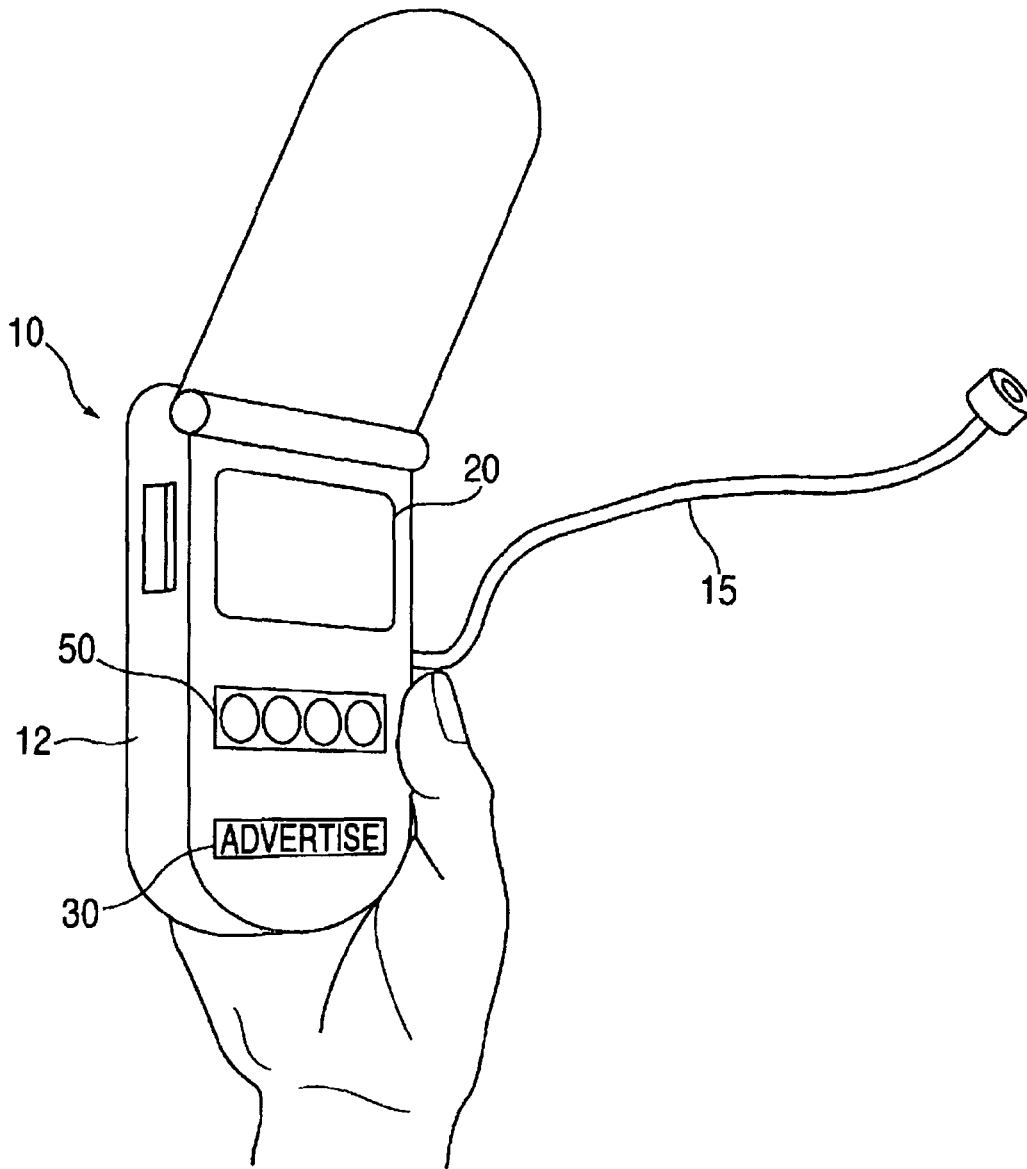


FIG. 1

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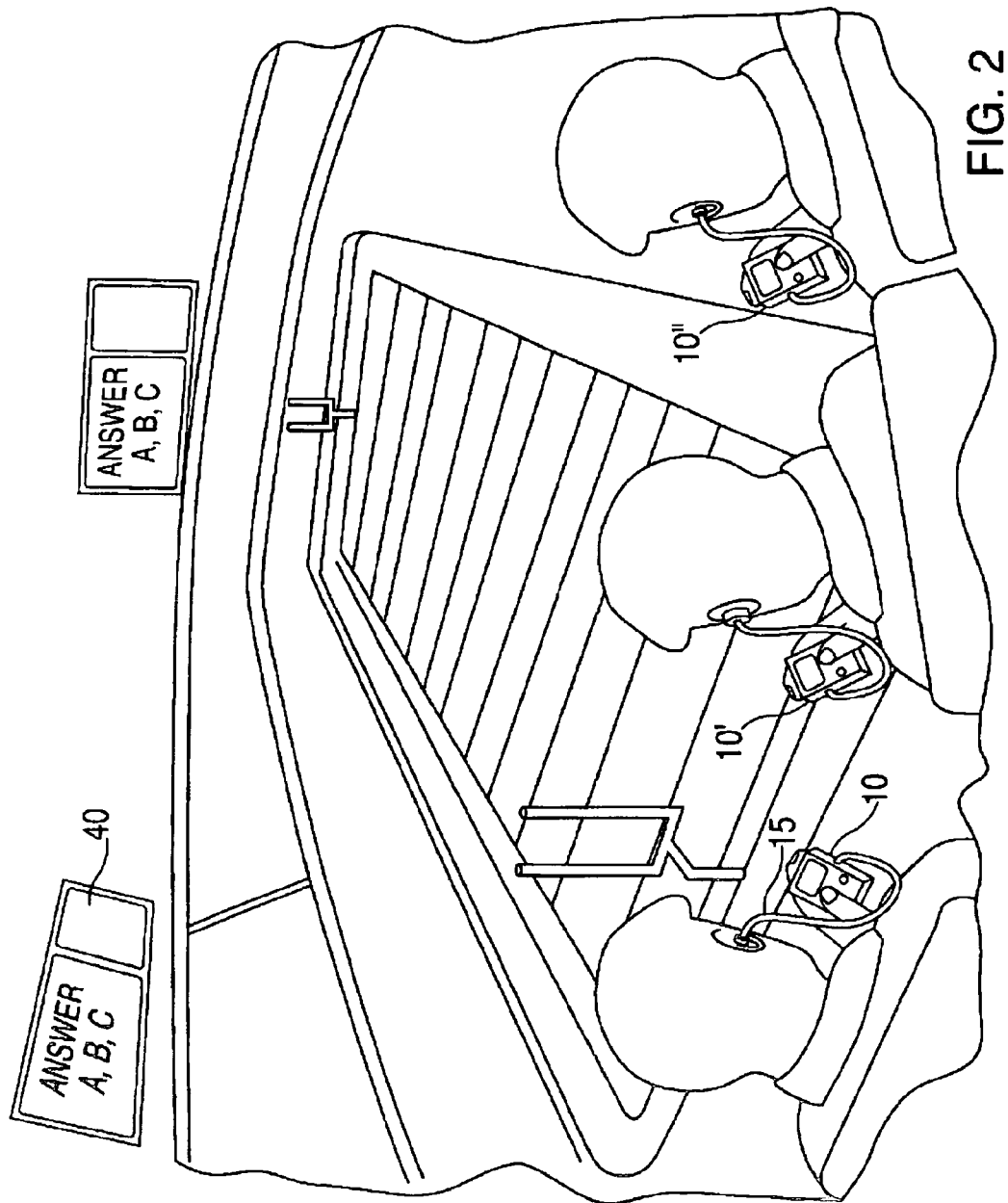


FIG. 2

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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's U.S. patent application Ser. No. 12/927,581, filed Nov. 18, 2010, now U.S. Pat. No. 8,023,977 which, in turn, is a continuation of U.S. patent application Ser. No. 12/228,908, filed Aug. 18, 2008, now U.S. Pat. No. 7,856,242, which, in turn, is a continuation of U.S. patent application Ser. No. 11/894,189, filed Aug. 20, 2007, now U.S. Pat. No. 7,424,304, which, in turn, is a continuation of U.S. Patent application Ser. No. 11/542,819, filed Oct. 4, 2006, now U.S. Pat. No. 7,522,930, which, in turn, is a continuation of U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005, now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, U.S. Pat. No. 6,975,878, which, in turn, is a continuation of U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398, the disclosures of which are specifically incorporated herein by reference thereto.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team.

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Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch

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screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention; and

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device 10 adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device 10 includes a housing 12 with an electronic display opening. The device 10 preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece 15 is included to allow the user to listen to the radio associated with the device without annoying neighbor-

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ing fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) 20 is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device 10 preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia 30 located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display 20 of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display 30, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface 50 on the device 10 allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device 10 or a large screen display 40 remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device 10, 10' and 10". FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique

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address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A program storage device readable by machine, tangibly embodying a set of non-transitory computer-readable media/instructions, executable by the machine, to perform a method for interactive audience participation at a live entertainment event viewed by audience members, a plurality of whom have

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a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one message from a sponsor;
allowing audience members to respond to said message with feedback;
receiving feedback to the querying entered via the user interface of the interactive device;
transmitting the feedback to a processor;
processing the feedback into results; and
providing the results to the sponsor,
wherein one or more of the audience members is physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

2. A program storage device, as recited in claim 1 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

3. A second program storage device in which the instructions, intended for the machine, are tangibly embodied before they are transferred to the program storage device of claim 1.

4. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

instructions directing the handheld device to present a prompt to a user of the handheld device to enter a response when the handheld device is within or in the immediate vicinity of a live entertainment event;
instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
instructions directing the handheld device to display data resulting from said processing that is received by the handheld device;
said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
said processor being operative to process the feedback into results, which are provided to a sponsor.

5. An accessible program storage device as recited in claim 4, wherein the data resulting from said processing comprises data about responses entered by other enrolled participants to the prompt.

6. An accessible program storage device as recited in claim 4, wherein the handheld device receives the instruction after having transmitted data concerning its location to a wireless system.

7. An accessible program storage device as recited in claim 4, wherein the data resulting from said processing comprises at least one coupon.

8. An accessible program storage device as recited in claim 4, wherein the data resulting from said processing comprises at least one promotional message.

9. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

instructions directing the handheld device to present a prompt to a user of the handheld device to enter a response when the handheld device receives wireless transmitted instructions because of the location of the handheld device at a live entertainment event to present the prompt to the user;

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instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
 instructions directing the handheld device to display data resulting from said processing that is received by the handheld device;
 said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
 said processor being operative to process the feedback into results, which are provided to a sponsor.

10. An accessible program storage device as recited in claim 9, wherein the handheld device wirelessly receives the instruction after having transmitted data concerning its location to a wireless system.

11. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

instructions for responding to instructions received wirelessly by the handheld device when it is within the immediate vicinity of the live entertainment event directing the handheld device to present a prompt to a user of the handheld device to enter a response;
 instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
 instructions directing the handheld device to display data resulting from said processing that is received by the handheld device;
 said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
 said processor being operative to process the feedback into results, which are provided to a sponsor.

12. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

instructions directing the handheld device to present a prompt to a user of the handheld device to enter a response when the handheld device is within or in the immediate vicinity of a venue;
 instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
 instructions directing the handheld device to display data resulting from said processing that is received by the handheld device;
 said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
 said processor being operative to process the feedback into results, which are provided to a sponsor.

13. An accessible program storage device as recited in claim 12, wherein said venue is a shopping venue.

14. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

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instructions directing the handheld device to present a prompt to a user of the handheld device to enter a response when the handheld device is within or in the immediate vicinity of a venue and, because of the location of the handheld device, it receives wireless transmitted instructions to present the prompt to the user;
 instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
 instructions directing the handheld device to display data resulting from said processing that is received by the handheld device;
 said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
 said processor being operative to process the feedback into results, which are provided to a sponsor.

15. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

instructions for responding to instructions received wirelessly by the handheld device when it is within the immediate vicinity of the venue directing the handheld device to present a prompt to a user of the handheld device to enter a response;
 instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
 instructions directing the handheld device to display data resulting from said processing that is received by the handheld device;
 said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
 said processor being operative to process the feedback into results, which are provided to a sponsor.

16. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

instructions directing the handheld device to present a prompt to a user of the handheld device to enter a response when the handheld device receives wireless transmitted instructions because of the location of the handheld device at a venue to present the prompt to the user;
 instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
 instructions directing the handheld device to display data resulting from said processing that is received by the handheld device;
 said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
 said processor being operative to process the feedback into results, which are provided to a sponsor.

17. An accessible program storage device that can provide software for downloading, and that is specially programmed with non-transitory computer-readable media/instructions

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executable by a portable handheld device having capability to receive and transmit messages wirelessly, the instructions comprising:

instructions for responding to instructions received wirelessly by the handheld device when it is within the immediate vicinity of a venue directing the handheld device to present a prompt to a user of the handheld device to enter a response;
instructions directing the handheld device to transmit the user's response to a wireless network for subsequent processing; and
instructions directing the handheld device to display data resulting from said processing that is received by the handheld device.

18. A wireless handheld device comprising:
localization circuitry appointed to transmit a location signal usable to determine a physical location of said device;
capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; and (iii) output messages to a user output interface; (iv) transmit a unique signature identifying that handheld device;
a computer readable medium with instructions readable by the handheld device;
said instructions including those directing the handheld device to present a prompt to a user of the handheld device to enter a response when the device is within or in the immediate vicinity of the live entertainment event;
said instructions including those directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
said instructions including those directing the handheld device to display data resulting from said processing that is received by the handheld device;
said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
said processor being operative to process the feedback into results, which are provided to a sponsor.

19. A wireless handheld device comprising:
localization circuitry appointed to transmit a location signal usable to determine a physical location of said device;
capability to: (i) receive and transmit messages; (ii) accept input via a user input interface;
and (iii) output messages to a user output interface; (iv) transmit a unique signature identifying that handheld device;
a computer readable medium with instructions readable by the handheld device;
said instructions including those directing the handheld device to present a prompt to a user of the handheld device to enter a response when the handheld device receives wireless transmitted instructions because of the location of the handheld device at the live entertainment event to present the prompt to the user;
said instructions including those directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
said instructions including those directing the handheld device to display data resulting from said processing that is received by the handheld device;
said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
said processor being operative to process the feedback into results, which are provided to a sponsor.

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20. A wireless handheld device comprising:
localization circuitry appointed to transmit a location signal usable to determine a physical location of said device;

capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; and (iii) output messages to a user output interface; (iv) transmit a unique signature identifying that handheld device;
a computer readable medium with instructions readable by the handheld device;
said instructions including those directing the handheld device to present a prompt to a user of the handheld device to enter a response when it is within the immediate vicinity of the live entertainment event directing the handheld device to present a prompt to a user of the handheld device to enter a response;
said instructions including those directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
said instructions including those directing the handheld device to display data resulting from said processing that is received by the handheld device;
said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
said processor being operative to process the feedback into results, which are provided to a sponsor.

21. A wireless handheld device comprising:
localization circuitry appointed to transmit a location signal usable to determine a physical location of said device;
capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; and (iii) output messages to a user output interface; (iv) transmit a unique signature identifying that handheld device;
a computer readable medium with instructions readable by the handheld device;
said instructions including those directing the handheld device to present a prompt to a user of the handheld device to enter a response when the device is within or in the immediate vicinity of a venue;
said instructions including those directing the handheld device to transmit the user's response to a wireless network for subsequent processing;
said instructions including those directing the handheld device to display data resulting from said processing that is received by the handheld device;
said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and
said processor being operative to process the feedback into results, which are provided to a sponsor.

22. A wireless handheld device as recited in claim **21**, wherein the data resulting from said processing comprises data about responses entered by other enrolled participants to the prompt.

23. A wireless handheld device as recited in claim **21**, wherein the handheld device receives the instruction after having transmitted data concerning its location to a wireless system.

24. A wireless handheld device as recited in claim **21**, wherein said venue is a shopping venue.

25. A wireless handheld device as recited in claim **21**, wherein the handheld device wirelessly receives the instruction after having transmitted data concerning its location to a wireless system.

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26. A wireless handheld device as recited in claim 21, wherein the data resulting from said processing comprises at least one coupon.

27. A wireless handheld device as recited in claim 21, wherein the data resulting from said processing comprises at least one promotional message.

28. A wireless handheld device comprising:

localization circuitry appointed to transmit a location signal usable to determine a physical location of said device;

capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; and (iii) output messages to a user output interface; (iv) transmit a unique signature identifying that handheld device;

a computer readable medium with instructions readable by the handheld device;

said instructions including those directing the handheld device to present a prompt to a user of the handheld device to enter a response when the handheld device receives wireless transmitted instructions because of the location of the handheld device at a venue to present the prompt to the user;

said instructions including those directing the handheld device to transmit the user's response to a wireless network for subsequent processing;

said instructions including those directing the handheld device to display data resulting from said processing that is received by the handheld device;

said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and

said processor being operative to process the feedback into results, which are provided to a sponsor.

29. A wireless handheld device comprising:

localization circuitry appointed to transmit a location signal usable to determine a physical location of said device;

capability to: (i) receive and transmit messages; (ii) accept input via a user input interface; and (iii) output messages to a user output interface; (iv) transmit a unique signature identifying that handheld device;

a computer readable medium with instructions readable by the handheld device;

said instructions including those directing the handheld device to present a prompt to a user of the handheld device to enter a response when it is within the immediate vicinity of a venue directing the handheld device to present a prompt to a user of the handheld device to enter a response;

said instructions including those directing the handheld device to transmit the user's response to a wireless network for subsequent processing;

said instructions including those directing the handheld device to display data resulting from said processing that is received by the handheld device;

said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and

said processor being operative to process the feedback into results, which are provided to a sponsor.

30. An accessible non-transitory computer-readable medium that is specially programmed with instructions, the instructions comprising:

instructions for receiving and processing data on the location of the wireless handheld devices generated through the use of localization circuitry within those handheld devices;

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instructions for directing a wireless handheld device to prompt a user of the handheld device to enter a response when the device is within or in the immediate vicinity of the live entertainment event;

instructions for processing the user's response to the prompt;

instructions for directing the transmission of the results of the processing of said user responses to a wireless handheld device;

said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and

said processor being operative to process the feedback into results, which are provided to a sponsor.

31. An accessible non-transitory computer-readable medium that is specially programmed with instructions, the instructions comprising:

instructions for receiving and processing data on the location of the wireless handheld devices generated through the use of localization circuitry within those handheld devices;

instructions for directing a wireless handheld device to prompt a user of the handheld device to enter a response when the device is within or in the immediate vicinity of a venue;

instructions for processing the user's response to the prompt;

instructions for directing the transmission of the results of the processing of said user responses to a wireless handheld device;

said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and

said processor being operative to process the feedback into results, which are provided to a sponsor.

32. An accessible computer-readable medium as recited by claim 31, wherein said venue is a shopping venue.

33. An accessible non-transitory computer-readable medium that is specially programmed with instructions, the instructions comprising:

instructions for receiving and processing data on the location of the wireless handheld devices generated through the use of localization circuitry through the use of a wireless network;

instructions for directing a wireless handheld device to prompt a user of the handheld device to enter a response when the device is within or in the immediate vicinity of a live entertainment event;

instructions for processing the user's response to the prompt;

instructions for directing the transmission of the results of the processing of said user responses to a wireless handheld device;

said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and

said processor being operative to process the feedback into results, which are provided to a sponsor.

34. An accessible computer-readable medium as recited in claim 33, wherein the processing of said user responses includes analysis of responses by other users to a prompt and wherein the transmission of the results of the processing is to multiple wireless handheld devices in a wireless network.

35. An accessible computer-readable medium as recited in claim 33, wherein the processing of said user responses includes dissemination of at least one coupon.

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36. An accessible computer-readable medium as recited in claim 33, wherein the processing of said user responses comprises at least one promotional message.

37. An accessible non-transitory computer-readable medium that is specially programmed with instructions, the instructions comprising:

instructions for receiving and processing data on the location of the wireless handheld devices generated through the use of localization circuitry through the use of a wireless network;

instructions for directing a wireless handheld device to prompt a user of the handheld device to enter a response when the device is within or in the immediate vicinity of a venue;

instructions for processing the user's response to the prompt;

instructions for directing the transmission of the results of the processing of said user responses to a wireless handheld device;

said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and

said processor being operative to process the feedback into results, which are provided to a sponsor.

38. An accessible computer-readable medium that is specially programmed with instructions as recited by claim 37, wherein said venue is a shopping mall.

39. An accessible computer-readable medium that is specially programmed with instructions as recited by claim 37, wherein the handheld device receives the instruction after having transmitted data concerning its location to a wireless system.

40. A method comprising:

receiving data on the location of wireless handheld devices that was generated through the use of localization circuitry within those handheld devices;

determining whether said handheld devices are within or in the immediate vicinity of a live entertainment event;

transmitting information for directing the wireless handheld device to prompt a user of the handheld device to enter a response;

receiving the user's response;

processing the user's response to the prompt;

transmitting information for directing the display of the results of the processing of said users response to a wireless handheld device;

transmitting feedback to a processor associated with said wireless network; and

processing the feedback into results, which are provided to a sponsor.

41. A method comprising:

receiving data on the location of wireless handheld devices that was generated through the use of localization circuitry within those handheld devices;

determining whether said handheld devices are within or in the immediate vicinity of a venue;

transmitting information for directing the wireless handheld device to prompt a user of the handheld device to enter a response;

receiving the user's response;

processing the user's response to the prompt;

transmitting information for directing the display of the results of the processing of said users response to a wireless handheld device;

transmitting feedback to a processor associated with said wireless network; and

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processing the feedback into results, which are provided to a sponsor.

42. A method as recited in claim 41, wherein said venue is a shopping mall.

43. A method comprising:

receiving data on the location of wireless handheld devices that was generated through the use of localization circuitry within through the use of a wireless network;

determining whether said handheld devices are within or in the immediate vicinity of a live entertainment event;

transmitting information for directing the wireless handheld device to prompt a user of the handheld device to enter a response;

receiving the user's response;

processing the user's response to the prompt;

transmitting information for directing the display of the results of the processing of said users response to a wireless handheld device;

transmitting feedback to a processor associated with said wireless network; and

processing the feedback into results, which are provided to a sponsor.

44. A method comprising:

receiving data on the location of wireless handheld devices that was generated through the use of localization circuitry through the use of a wireless network;

determining whether said handheld devices are within or in the immediate vicinity of a venue;

transmitting information for directing the wireless handheld device to prompt a user of the handheld device to enter a response;

receiving the user's response;

processing the user's response to the prompt;

transmitting information for directing the display of the results of the processing of said users response to a wireless handheld device;

transmitting feedback to a processor associated with said wireless network; and

processing the feedback into results, which are provided to a sponsor.

45. A method as recited by claim 44, wherein said venue is a shopping mall.

46. A method as recited in claim 44, wherein the processing of said user responses includes analysis of responses by other users to a prompt and wherein the transmission of the results of the processing is to multiple wireless handheld devices in a wireless network.

47. A method as recited in claim 44, wherein the processing of said user responses includes dissemination of at least one coupon.

48. A method as recited in claim 44, wherein the processing of said user responses comprises at least one promotional message.

49. An accessible non-transitory computer-readable medium that is specially programmed with instructions, the instructions comprising:

instructions for receiving a response entered on a wireless handheld device by a user to a prompt displayed on a sign at a venue where the user and handheld device are located;

instructions for processing said response;

instructions for transmitting the result of said processing over a wireless network;

said portable handheld device being operative to transmit feedback to a processor associated with said wireless network; and

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said processor being operative to process the feedback into results, which are provided to a sponsor.

50. An accessible computer-readable medium that is specially programmed with instructions as recited by claim 49, wherein said instructions comprise entry by photo.

51. An accessible computer-readable medium that is specially programmed with instructions as recited by claim 49, wherein said instructions comprise entry by user typing.

52. An accessible computer-readable medium that is specially programmed with instructions as recited by claim 49, wherein said sign comprises a poster.

53. An accessible computer-readable medium that is specially programmed with instructions as recited by claim 49, wherein said sign comprises a billboard.

54. An accessible computer-readable medium that is specially programmed with instructions as recited by claim 49, wherein said sign is not electronic.

55. A method comprising:

viewing a sign at a venue by a viewer possessing a wireless handheld device that prompts the viewer to respond using said wireless handheld device;

responding to the prompt by employing the functionalities of the wireless handheld device, including providing information to the wireless handheld device for transmitting to a wireless network;

after the information provided by the user has been processed remotely, receiving a response on the wireless handheld device based on that processing;

transmitting feedback to a processor associated with said wireless network; and

processing the feedback into results, which are provided to a sponsor.

56. A method as recited by claim 55, wherein said information is entered by photo.

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57. A method as recited by claim 55, wherein said information is entered by user typing.

58. A method as recited by claim 55, wherein said sign comprises a poster.

59. A method as recited by claim 55, wherein said sign comprises a billboard.

60. A method as recited by claim 55, wherein said sign is not electronic.

61. A method engaged in by a wireless handheld device comprising:

receiving a user response through a data-input mechanism on the wireless handheld device to a prompt displayed on a sign at a venue where the user and handset are located;

wirelessly transmitting the user response to a wireless network for delivery to a receiving device for processing; wirelessly receiving data resulting from said processing; displaying the data resulting from said processing to the user;

transmitting feedback to a processor associated with said wireless network; and processing the feedback into results, which are provided to a sponsor.

62. A method as recited by claim 61, wherein said response is entered by photo.

63. A method as recited by claim 61, wherein said response is entered by user typing.

64. A method as recited by claim 61, wherein said sign comprises a poster.

65. A method as recited by claim 61, wherein said sign comprises a billboard.

66. A method as recited by claim 61, wherein said sign is not electronic.

* * * * *

EXHIBIT 27



US008412172B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 8,412,172 B2**
(45) **Date of Patent:** ***Apr. 2, 2013**

(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/507,131**

(22) Filed: **Jun. 6, 2012**

(65) **Prior Publication Data**

US 2012/0252499 A1 Oct. 4, 2012

Related U.S. Application Data

(63) Continuation of application No. 13/200,145, filed on Sep. 19, 2011, now Pat. No. 8,213,975, which is a continuation of application No. 12/927,581, filed on Nov. 18, 2010, now Pat. No. 8,023,977, which is a continuation of application No. 12/228,908, filed on

(Continued)

(51) **Int. Cl.**
H04M 3/42 (2006.01)

(52) **U.S. Cl.** **455/417; 455/575.6; 463/36**

(58) **Field of Classification Search** 455/414.2, 455/414.1, 466, 3.01–3.06, 517, 575.6; 463/36–42; 434/350, 362, 323, 322; 273/460; 705/10, 705/14, 27, 29; 725/24, 32, 74, 86

See application file for complete search history.

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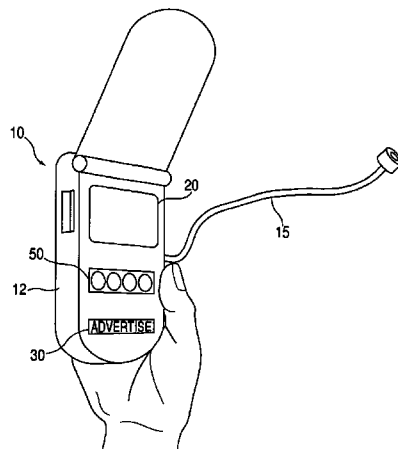
Craig A. Krueger, Wireless Distributed Certified Real Time Bidding and Tracking System for Live Auctions NPL# 60222727.*

Primary Examiner — Jean Gelin

(74) *Attorney, Agent, or Firm* — Ernest D. Buff; Ernest D. Buff & Assoc. LLC

(57) **ABSTRACT**

The present invention relates to a method for providing interactive audience participation at live entertainment events. The method includes use of an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.



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17 Claims, 2 Drawing Sheets

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Related U.S. Application Data

Aug. 18, 2008, now Pat. No. 7,856,242, which is a continuation of application No. 11/894,189, filed on Aug. 20, 2007, now Pat. No. 7,424,304, which is a continuation of application No. 11/542,819, filed on Oct. 4, 2006, now Pat. No. 7,522,930, which is a continuation of application No. 11/266,783, filed on Nov. 4, 2005, now Pat. No. 7,123,930, which is a continuation of application No. 10/661,871, filed on Sep. 12, 2003, now Pat. No. 6,975,878, which is a continuation of application No. 09/854,267, filed on May 11, 2001, now Pat. No. 6,650,903, which is a continuation of application No. 09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,398.

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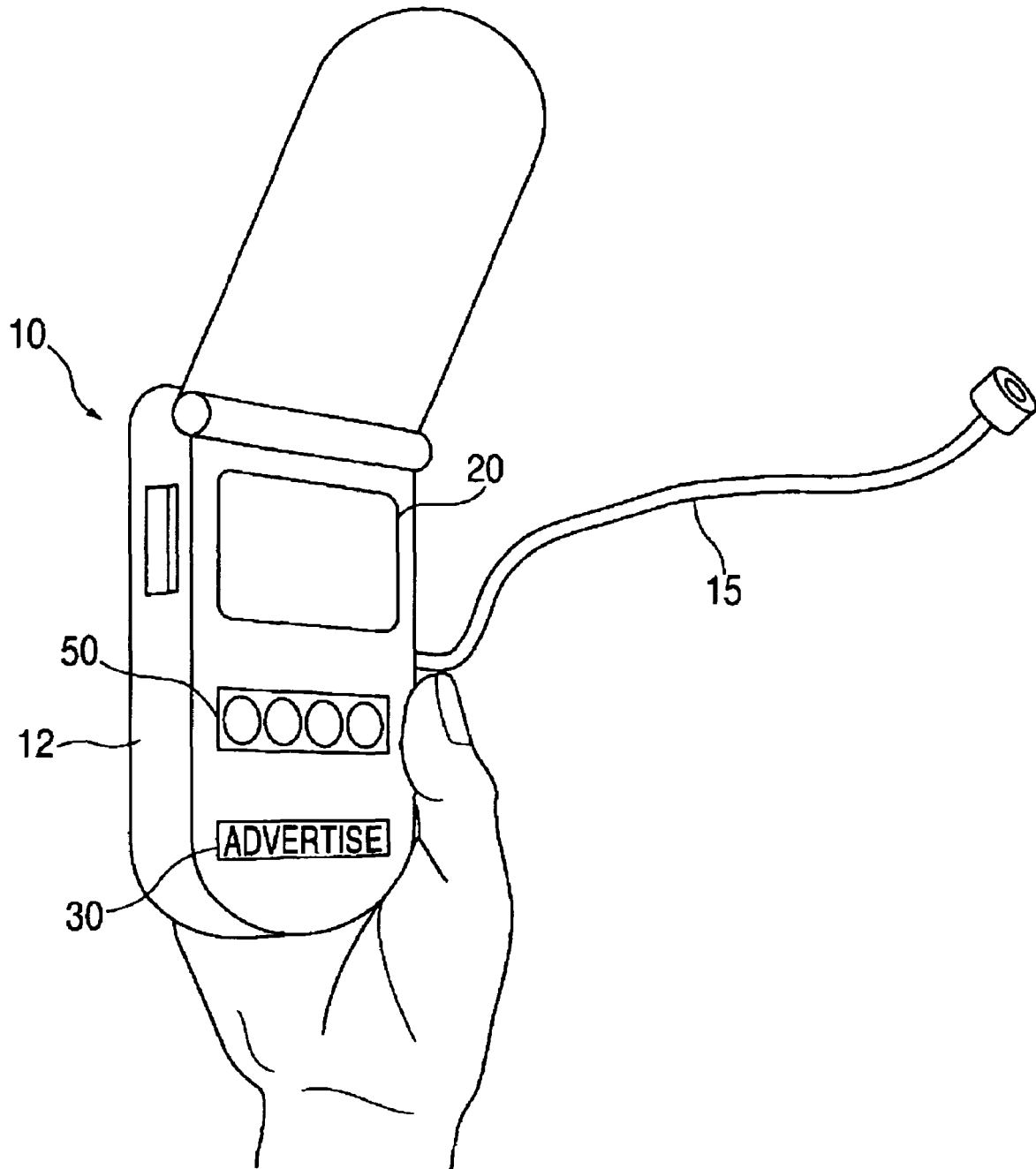


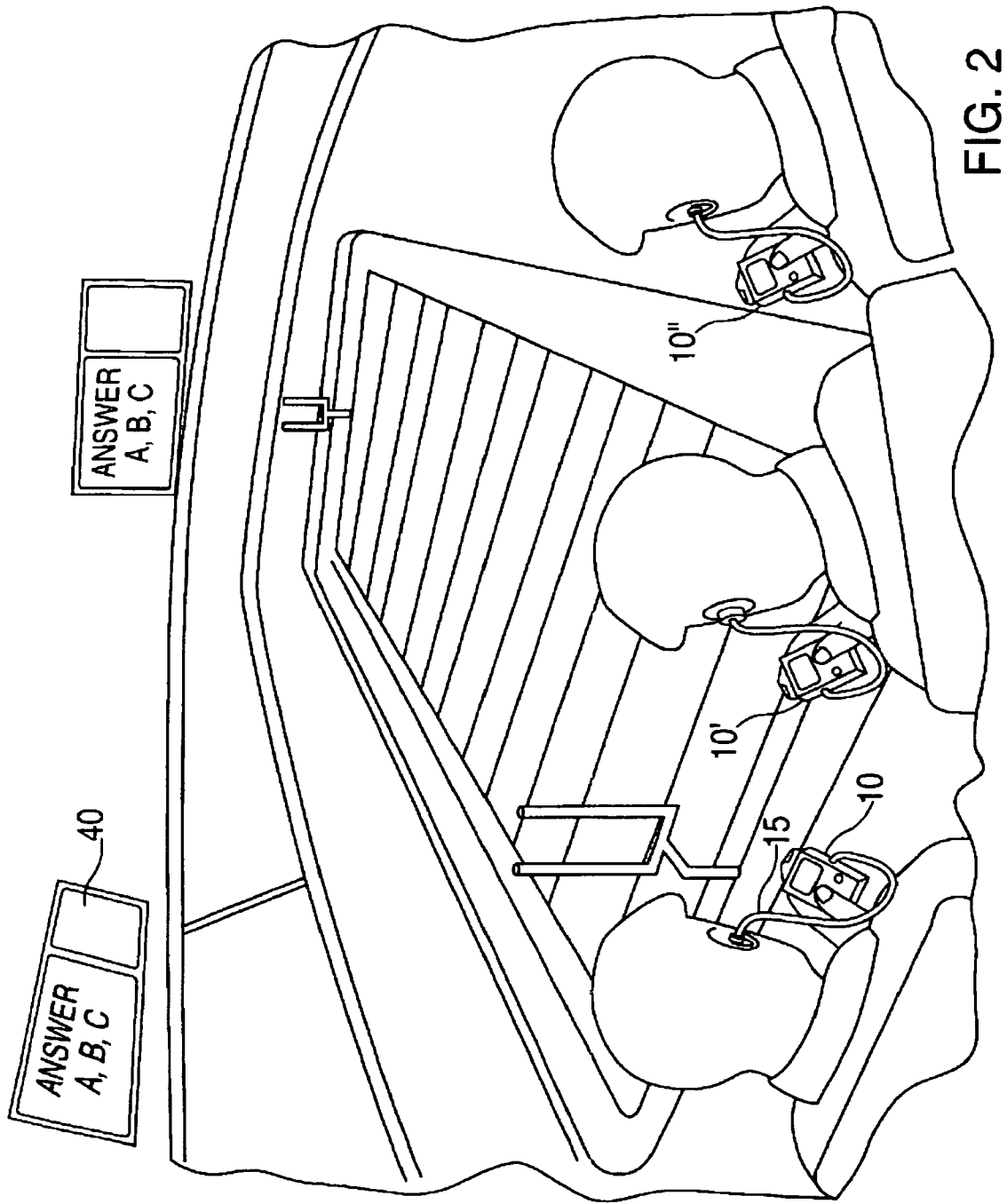
FIG. 1

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1

METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's U.S. patent application Ser. No. 13/200,145, filed Sep. 19, 2011 now U.S. Pat. No. 8,213,975, which, in turn, is a continuation of applicant's U.S. patent application Ser. No. 12/927,581, filed Nov. 18, 2010 now U.S. Pat. No. 8,023,977, which, in turn, is a continuation of U.S. patent application Ser. No. 12/228,908, filed Aug. 18, 2008, now U.S. Pat. No. 7,856,242, which, in turn, is a continuation of U.S. patent application Ser. No. 11/894,189, filed Aug. 20, 2007, now U.S. Pat. No. 7,424,304, which, in turn, is a continuation of U.S. patent application Ser. No. 11/542,819, filed Oct. 4, 2006, now U.S. Pat. No. 7,522,930, which, in turn, is a continuation of U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005, now U.S. Pat. No. 7,123,930 which, in turn, is a continuation of U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, U.S. Pat. No. 6,975,878, which, in turn, is a continuation of U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game

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strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple

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input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention; and

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device **10** adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device **10** includes a housing **12** with an electronic display opening. The device **10** preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

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An earpiece **15** is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) **20** is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device **10** preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia **30** located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display **20** of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display **30**, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface **50** on the device **10** allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device **10** or a large screen display **40** remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device **10**, **10'** and **10''**. FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

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Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A program storage device readable by machine, tangibly embodying a set of computer-readable instructions executable by the machine to allow the machine to interface with a

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system for enabling interactive participation by audience members viewing a live entertainment event at a venue, the machine having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

a wireless communication system adapted to transmit and receive messages with the interactive device;

a display that presents information to one or more audience members that allows audience members to respond to at least one displayed message with feedback entered through the user interface and transmitted by the interactive device;

a receiving device that receives the feedback at a central processing station or distributed processing stations;

a storage device that stores the received feedback as audience data;

a central processor adapted to receive and process the audience data into results; and

the electronic display is in electrical communication with a local microprocessor in communication with a transceiver for the transmission and receipt of data from a central processor such that when one or more of the audience members are physically located at a place that is outside of a direct, in-person view of the live entertainment event transmission and receipt of data from a central processor is allowed.

2. A program storage device, as recited in claim 1 that is caused to tangibly embody the instructions, as a result of one or more transmissions intercepted by the machine.

3. A program storage device, as recited in claim 1, wherein the place is a parking lot that services the venue.

4. A program storage device, as recited in claim 1, wherein the place is a remote stadium.

5. A program storage device, as recited in claim 1, wherein the place is a convention hall.

6. A program storage device, as recited in claim 1, wherein the place is a restaurant.

7. A program storage device, as recited in claim 1, wherein the place is a bar.

8. A program storage device, as recited in claim 1, wherein the place is a house.

9. A program storage device, as recited in claim 1, further comprising means for broadcasting the results to the audience members.

10. A program storage device, as recited in claim 1, further comprising means for disseminating at least one promotional message of a sponsor to the audience members through the electronic display.

11. A program storage device, as recited in claim 1, further comprising means for disseminating at least one electronic coupon.

12. A program storage device, as recited in claim 1, further comprising means for delivering a prize or electronic coupon on the interactive device or through email.

13. A program storage device, as recited in claim 1, wherein the communicating information means comprises use of the interactive device.

14. A program storage device, as recited in claim 1, wherein the communicating information means comprises at least one large screen display visible to audience members in the venue.

15. A program storage device, as recited in claim 1, further comprising means for sending messages from one audience member to another audience member, group of audience members or all audience members.

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16. A program storage device, as recited in claim 1, further comprising a unique address programmed in each said device.

17. A program storage device readable by machine, tangibly embodying computer readable instructions executable by the machine to allow the machine to interface with a system for enabling interactive participation by audience members viewing a live entertainment event at a venue, the machine having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

a wireless communication system adapted to transmit and receive messages with the interactive device;

at least one displayed message communicating information to audience members that allows audience members

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to respond to said at least one displayed message and to respond from one audience member to another with feedback entered through the user interface and transmitted by the interactive device;

a central processing station or distributed processing stations for receiving the feedback and storing the received feedback as audience data;

a central processor adapted to receive and process the audience data into results;

wherein one or more of the audience members are physically located at a place that is outside of a direct, in-person view of the live entertainment event at the venue.

* * * * *

EXHIBIT 28



US008423005B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 8,423,005 B2**

(45) **Date of Patent:** ***Apr. 16, 2013**

(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**

(75) Inventor: **Eric Inselberg**, Short Hills, NJ (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/385,740**

(22) Filed: **Mar. 5, 2012**

(65) **Prior Publication Data**

US 2012/0185324 A1 Jul. 19, 2012

Related U.S. Application Data

(63) Continuation of application No. 12/927,580, filed on Nov. 18, 2010, now Pat. No. 8,131,279, which is a continuation of application No. 11/894,163, filed on Aug. 20, 2007, now Pat. No. 7,860,523, which is a continuation of application No. 11/542,819, filed on Oct. 4, 2006, now Pat. No. 7,522,930, which is a continuation of application No. 11/266,783, filed on Nov. 4, 2005, now Pat. No. 7,123,930, which is a continuation of application No. 10/661,871, filed on Sep. 12, 2003, now Pat. No. 6,975,878, which is a continuation of application No. 09/854,267, filed on May 11, 2001, now Pat. No. 6,650,903, which is a continuation of application No. 09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,398.

(51) **Int. Cl.**
H04M 3/42 (2006.01)

(52) **U.S. Cl.**
USPC **455/417; 455/575.6; 463/36**

(58) **Field of Classification Search** 455/414.2, 455/414.1, 466, 3.01-3.06, 517, 575.6; 463/36-42; 434/350, 362, 323, 322; 273/460; 705/10, 705/14, 27, 29; 725/24, 32, 74, 86
See application file for complete search history.

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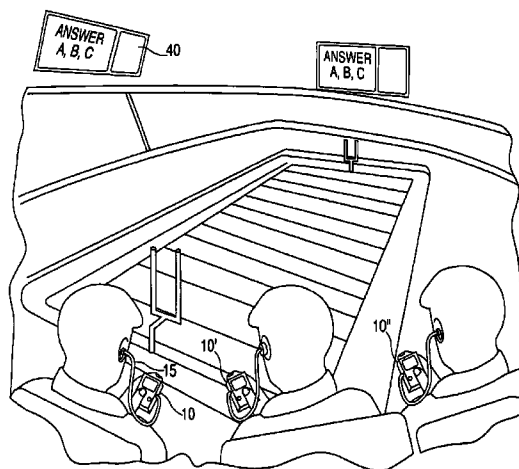
Primary Examiner — Jean Gelin

(74) *Attorney, Agent, or Firm* — Ernest D. Buff; Ernest D. Buff & Assoc. LLC

(57) **ABSTRACT**

The present invention relates to methods and systems for providing interactive audience participation at live entertainment events. The method includes providing audience members with an interactive device that presents a promotional message and includes a user interface, broadcasting audio programming to the audience member through the interactive device, querying the audience members, wherein answers to the querying may be entered by the audience member via the user interface of the interactive device, transmitting the answers to a central processor, storing the answers as audience data, processing the audience data into results, storing the results of the processing of the audience data and broadcasting the results of the processing of the audience data.

22 Claims, 2 Drawing Sheets



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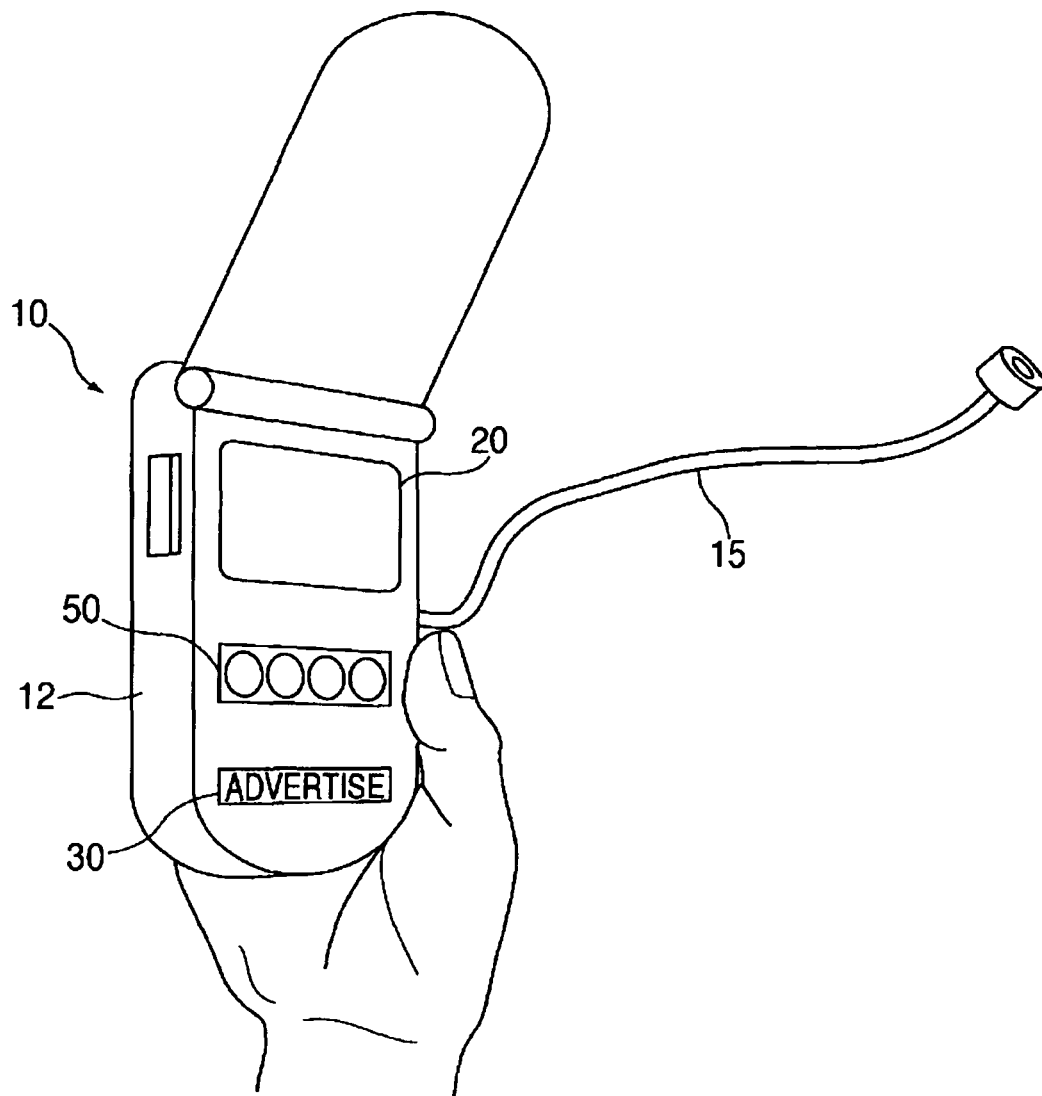


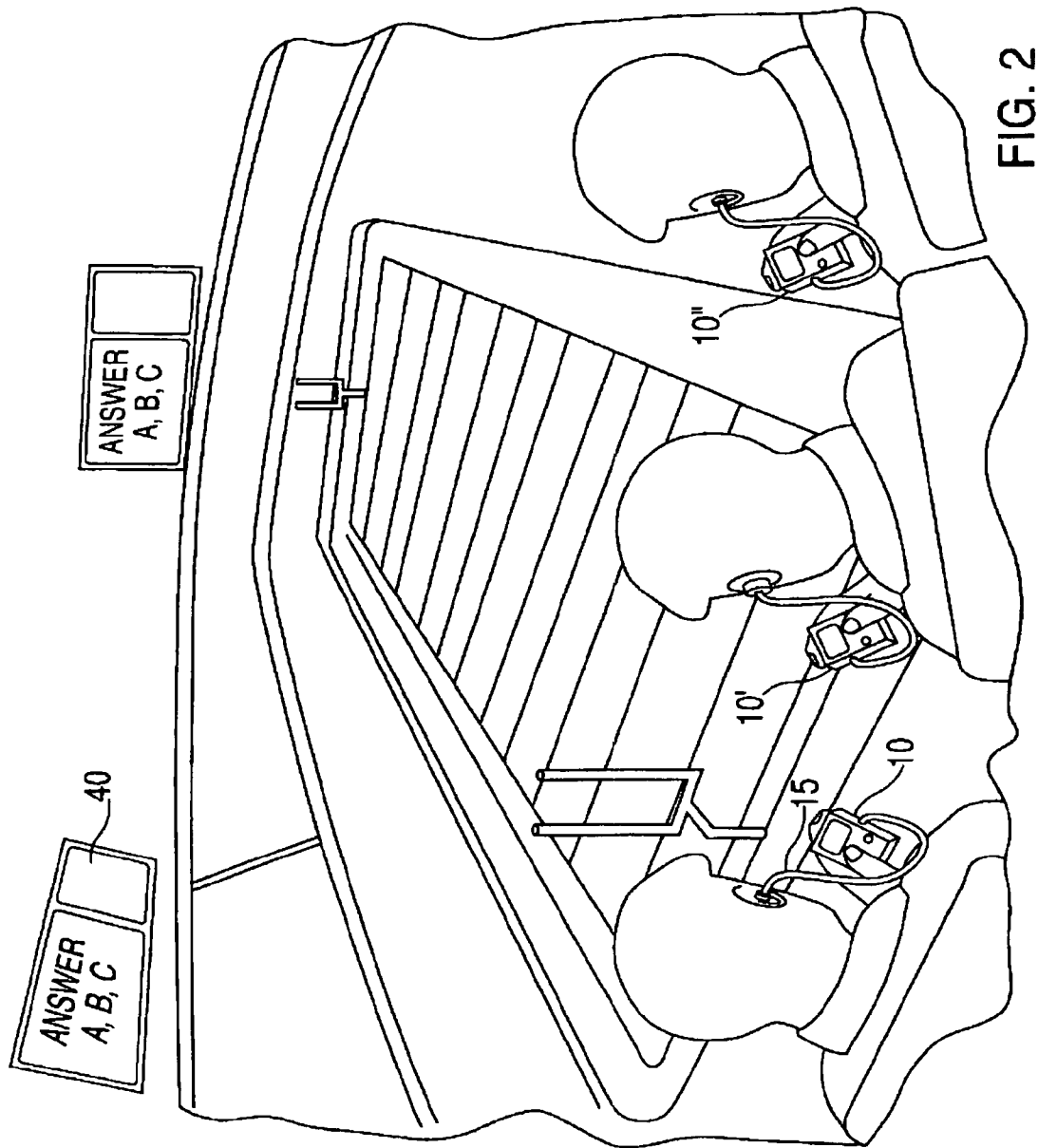
FIG. 1

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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

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2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to

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attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion. Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event. The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list

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of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention.

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device 10 adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device 10 includes a housing 12 with an electronic display opening. The device 10 preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece 15 is included to allow the user to listen to the radio associated with the device without annoying neighbor-

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ing fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) 20 is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device 10 preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia 30 located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display 20 of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display 30, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface 50 on the device 10 allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device 10 or a large screen display 40 remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device 10, 10' and 10". FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique

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address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. A system for actively engaging participation by audience members attending a live entertainment event at an expansive outdoor/indoor venue and employing a wireless interactive device having capability (i) to receive and transmit messages, (ii) accept input via a user interface, and (iii) display messages on an electronic display, the system comprising:

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a wireless communication system configured to transmit and receive messages with the interactive device;
a means for presenting the audience members with an opportunity to participate to at least one request for engagement with responses entered through the user interface and transmitted by the interactive device;
a means for receiving the responses at a central processing station or distributed processing stations;
a means for storing the received responses as audience data;
a central processor configured to receive and process the audience data into results.

2. The system of claim 1, wherein the expansive outdoor/indoor venue is a venue where a purchase can be made.

3. The system of claim 1, further comprising means for disseminating least one promotional message of a sponsor to the audience members through the electronic display.

4. The system of claim 3, further comprising means for providing the results to the sponsor.

5. The system of claim 1, wherein the presenting means comprises a device other than the interactive device and which is perceptible to audience members in the expansive outdoor/indoor venue.

6. The system of claim 1, wherein the presenting means comprises a stadium monitor system visible to audience members in the expansive outdoor/indoor venue.

7. The system of claim 1, further comprising means for providing audio transmission of audible programming to the interactive devices.

8. A method for actively engaging audience participation at a live entertainment event at an expansive outdoor/indoor venue attended by a plurality of participating audience members employing a hand-held, wireless interactive device that includes a user interface, the method comprising the steps of: presenting an opportunity for engagement of the participating audience members;

receiving responses to the opportunity for engagement entered by the participating audience members via the user interface of the interactive device;

transmitting the responses to a central processor;

processing the responses into results; and
broadcasting the results to the plurality of participating audience members attending the live entertainment event.

9. The method of claim 8, wherein the expansive outdoor/indoor venue is a venue where a purchase can be made.

10. The method of claim 8, further comprising the step of presenting a promotional message to each participating audience member.

11. The method of claim 10, wherein the promotional message is transmitted wirelessly to the interactive device and is presented to the participating audience member either visually or aurally.

12. The method of claim 8, further comprising the step of awarding a prize to at least one selected audience member who has responded.

13. The method of claim 8, wherein the wireless device employs a form of wireless communications selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

14. The method of claim 8, wherein the answers are received at distributed processing stations and thereafter transmitted to the central processor.

15. A method for actively engaging audience participation at a live entertainment event at an expansive outdoor/indoor venue attended by audience members, a plurality of whom

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have a wireless interactive device including a user interface, the method comprising the steps of:

presenting at least one promotional message from a sponsor;

presenting an opportunity for engagement of the audience members;

receiving responses to the opportunity for engagement entered via the user interface of the interactive device;

transmitting the responses to a processor;

processing the responses into results; and

providing the results to the sponsor.

16. The method of claim **15**, wherein the expansive outdoor/indoor venue is a location where a purchase can be made.

17. The method of claim **15**, further comprising the step of broadcasting the results to the audience members attending the live entertainment event.

18. The method of claim **15**, further comprising the step of electronically delivering a prize to at least one selected audience member who has responded to the opportunity for interaction.

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19. The method of claim **15**, wherein the step of presenting an opportunity for engagement comprises use of a large screen display.

20. The method of claim **15**, wherein the step of presenting an opportunity for engagement comprises use of a device other than the interactive device.

21. The system of claim **1**, wherein said wireless interactive device further comprises localization circuitry for transmitting a physical location thereof, said system further comprises means for detecting said transmitted location, and means for enrolling effected automatically for devices wherein said transmitted location is within said live event venue.

22. The method of claim **15**, wherein said wireless interactive device further comprises localization circuitry for transmitting a physical location thereof, said method further comprises a step of detecting said transmitted location, and an enrolling step is effected automatically for devices wherein said transmitted location is within said live event venue.

* * * * *

EXHIBIT 29



US009143828B2

(12) **United States Patent**
Inselberg

(10) **Patent No.:** **US 9,143,828 B2**
(45) **Date of Patent:** ***Sep. 22, 2015**

(54) **METHOD AND APPARATUS FOR
INTERACTIVE AUDIENCE PARTICIPATION
AT A LIVE ENTERTAINMENT EVENT**

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(72) Inventor: **Eric Inselberg**, Short Hills, NJ (US)

(73) Assignee: **Frank Bisignano**, Watchung, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/815,459**

(22) Filed: **Mar. 6, 2013**

(65) **Prior Publication Data**

US 2014/0259035 A1 Sep. 11, 2014

Related U.S. Application Data

(63) Continuation of application No. 13/507,131, filed on Jun. 6, 2012, now Pat. No. 8,412,172, which is a

(Continued)

(51) **Int. Cl.**
H04M 1/00 (2006.01)
H04N 21/442 (2011.01)
H04W 84/00 (2009.01)
H04W 88/02 (2009.01)
A63F 13/92 (2014.01)
A63F 13/27 (2014.01)

(52) **U.S. Cl.**
CPC **H04N 21/44222** (2013.01); **A63F 13/27** (2014.09); **A63F 13/92** (2014.09); **H04W 84/00** (2013.01); **H04W 88/02** (2013.01)

(58) **Field of Classification Search**

CPC ... H04W 84/00; H04W 84/005; H04W 84/02; H04W 84/002; H04W 84/18; H04W 84/10; H04W 88/02

USPC 455/3.01, 3.05, 3.06, 414.1, 414.2, 466, 455/517, 575.6; 463/36, 37, 38, 39, 40, 41, 463/42; 434/323, 350, 362, 322; 705/10, 705/14, 27, 29; 725/24, 32, 74, 86

See application file for complete search history.

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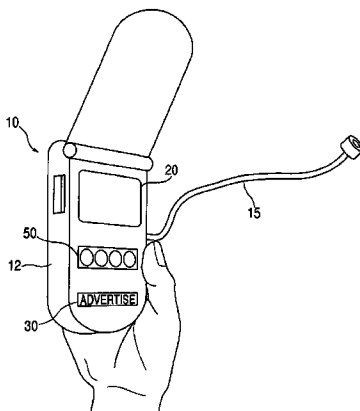
Primary Examiner — Jean Gelin

(74) *Attorney, Agent, or Firm* — Ernest D. Buff & Assoc. LLC; Ernest D. Buff; Harry Agnast

(57) **ABSTRACT**

The present invention relates to an interactive system enabling audience participation at a live event taking place in a venue. The system includes use of an interactive device that presents a promotional message (that is displayed on an electronic display) to an audience member, wherein said audience member is capable of responding to said message by entering feedback into said interactive device. Said feedback is transmitted to a central processor, where said feedback is stored as audience data and subsequently processed into results.

7 Claims, 2 Drawing Sheets



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Related U.S. Application Data

continuation of application No. 13/200,145, filed on Sep. 19, 2011, now Pat. No. 8,213,975, which is a continuation of application No. 12/927,581, filed on Nov. 18, 2010, now Pat. No. 8,023,977, which is a continuation of application No. 12/228,908, filed on Aug. 18, 2008, now Pat. No. 7,856,242, which is a continuation of application No. 11/894,189, filed on Aug. 20, 2007, now Pat. No. 7,424,304, which is a continuation of application No. 11/542,819, filed on Oct. 4, 2006, now Pat. No. 7,522,930, which is a continuation of application No. 11/266,783, filed on Nov. 4, 2005, now Pat. No. 7,123,930, which is a continuation of application No. 10/661,871, filed on Sep. 12, 2003, now Pat. No. 6,975,878, which is a continuation of application No. 09/854,267, filed on May 11, 2001, now Pat. No. 6,650,903, which is a continuation of application No. 09/656,096, filed on Sep. 6, 2000, now Pat. No. 6,434,398.

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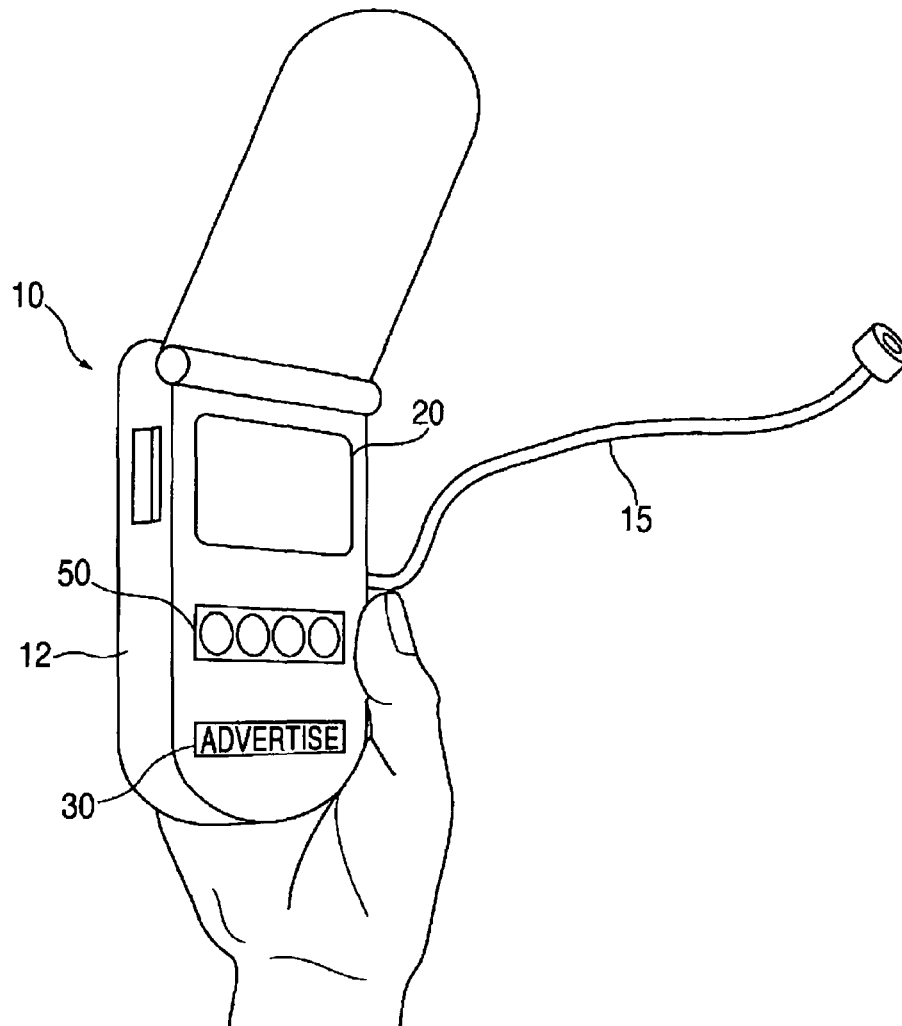
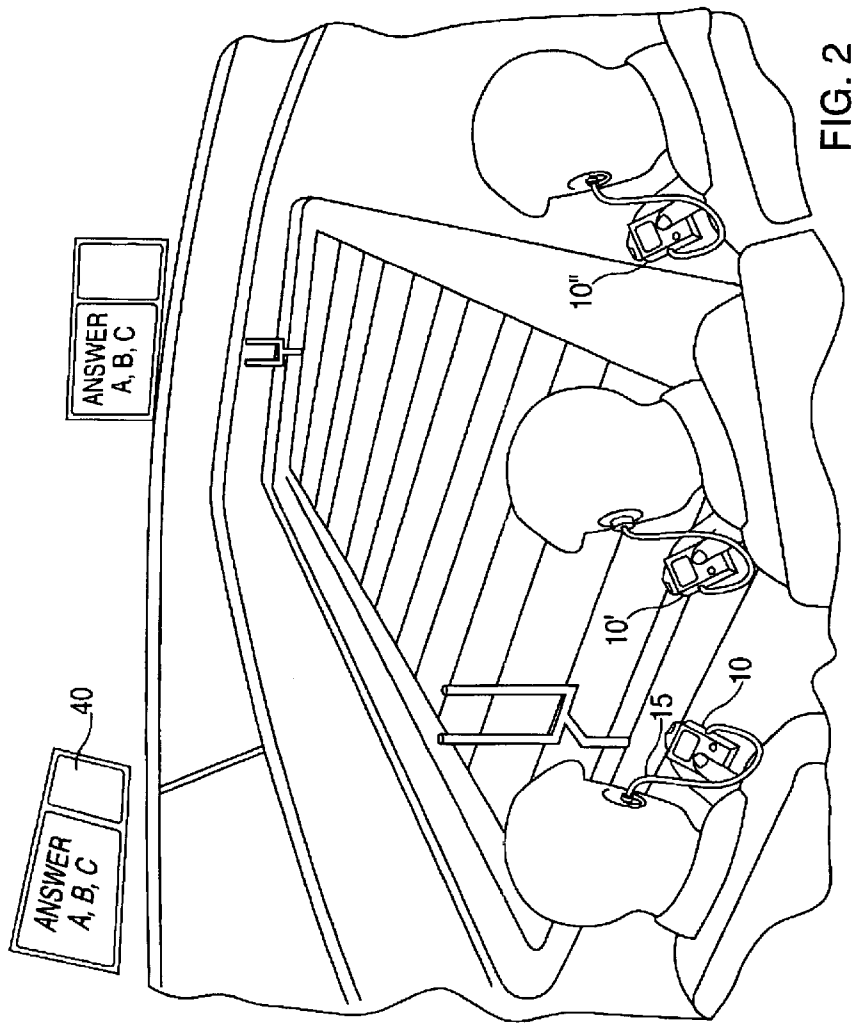


FIG. 1



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METHOD AND APPARATUS FOR INTERACTIVE AUDIENCE PARTICIPATION AT A LIVE ENTERTAINMENT EVENT

RELATED U.S. APPLICATION DATA

This application is a continuation of applicant's co-pending U.S. patent application Ser. No. 13/507,131, filed Jun. 6, 2012 which, in turn is a continuation of U.S. patent application Ser. No. 13/200,145, filed Nov. 19, 2011, now U.S. Pat. No. 8,213,975, which, in turn is a continuation of U.S. patent application Ser. No. 12/927,581, filed Nov. 18, 2010, now U.S. Pat. No. 8,023,977, which, in turn, is a continuation of U.S. patent application Ser. No. 12/228,908, filed Aug. 18, 2008, now U.S. Pat. No. 7,856,242, which, in turn, is a continuation of U.S. patent application Ser. No. 11/894,189, filed Aug. 20, 2007, now U.S. Pat. No. 7,424,304, which, in turn, is a continuation of U.S. patent application Ser. No. 11/542,819, filed Oct. 4, 2006, now U.S. Pat. No. 7,522,930, which, in turn, is a continuation of U.S. patent application Ser. No. 11/266,783, filed Nov. 4, 2005, now U.S. Pat. No. 7,123,930, which, in turn, is a continuation of U.S. patent application Ser. No. 10/661,871, filed Sep. 12, 2003, now U.S. Pat. No. 6,975,878, which, in turn, is a continuation of U.S. patent application Ser. No. 09/854,267, filed May 11, 2001, now U.S. Pat. No. 6,650,903, which, in turn, is a continuation of U.S. patent application Ser. No. 09/656,096, filed Sep. 6, 2000, now U.S. Pat. No. 6,434,398.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for interactive audience participation at a live entertainment event. The invention also relates to a system that is used in connection with such method.

2. Description of the Prior Art

Spectator events and, in particular, spectator sporting events have become a multibillion dollar a year business throughout the world. Millions of people attend their favorite sporting events, choosing among baseball, soccer, basketball, hockey, football, tennis, golf, auto racing, horse racing, boxing, and many others. Rather than merely watching sporting events on television, fans are willing to pay for the privilege of attending such events live in order to enjoy the spontaneity and excitement.

Audience reaction at live spectator events is generally gauged informally on crowd volume. At certain events, limited amounts of information are shared with audience members using large screen displays such as those available from Sony Corporation under the trademark JUMBOTRON™. However, the opportunities for audience participation and useful or meaningful audience feedback are limited.

Marketing research has shown that audience members desire both an opportunity to participate in the spectator event and enjoy interactivity with other audience members. Informed audience members desire an opportunity to share their opinions with others. Heretofore, there has been no practical means to solicit the aggregate positions and the opinions of audience members at large venues (e.g., stadiums, arenas, race tracks, golf courses, theme parks, and other expansive outdoor/indoor venues).

Fans at live spectator events have come to expect background information and detailed analysis from viewing televised sporting events at home and/or readily obtaining such information over the Internet. Further, audience members are becoming more and more accustomed to interactivity from

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their use of computer games, such as fantasy sports league games, that allow them to organize teams, determine game strategies and test their skill at managing a sports team. Accordingly, in order to continue attracting live audiences to attend these large venues, promoters have an incentive to provide audience members with an enhanced experience.

One example of a venue that would benefit from enhanced audience participation is major league baseball. The games last several hours, and audience members spend most of their time in and around a reserved seat. When going to the concession stand or restrooms, the fan misses part of the game. Further, opportunities for interaction and expressing one's opinion are typically limited to cheering or jeering. Occasionally, a single fan or a few fans are selected to participate in a contest, such as a trivia contest, but these opportunities are extremely limited. Nearly every fan has an opinion about how the game should be played, and would like an opportunity to express his or her opinion.

Ideally, fans would like to be recognized for their skill and knowledge concerning individual teams and/or winning strategies. Fans also desire to express opinions concerning facilities, sponsors, players, management and concessions. Being able to voice an opinion, and comparing the opinion to that of other fans, would enhance the overall experience. Also, this kind of information can be useful to management by helping it determine the kind of services that fans desire.

Additionally, an often-heard complaint from fans is that they missed some of the action because they could not see or did not know precisely what was happening. For example, sometimes the seat location of the attendee fails to offer an unobstructed view. On other occasions a technical ruling may be made by a game official that is not fully explained to those in attendance but is fully analyzed by television and/or radio announcers.

It is also noted that spectators commuting to and/or from events do not have ready access to desirable information such as sports related information and other information such as traffic and weather reports.

SUMMARY OF THE INVENTION

The present invention relates to a method and apparatus for enhancing the experience of audience members at live spectator events by more fully involving the audience. In a preferred embodiment of the invention, the method of enhancing audience participation comprises communicating information to fans at a sporting event using an interactive device that allows fans to respond to displayed messages. Individual fan feedback is stored, processed (e.g., tabulated) and displayed back to the individual fan or the audience as a whole. The interactive device is preferably a wireless, hand held device, which includes an audio component to allow the user to listen to play-by-play and expert commentary during the live event.

The audio component may also provide spectators with other desirable information such as traffic and weather reports. Since the device is easily transported, the fan can carry it on trips to the concession stands or to the restrooms. Further, the method presents promotional messages of sponsors and advertisers to each user of the interactive device. The promotional message may be permanently affixed to the device and/or transmitted to each device via open band lines. In a more specific method, the location of individual fans is identified by means of a transceiver located within the interactive device.

The method can be used to conduct contests wherein a fan is asked to predict the next event or events to take place (e.g. the outcome of the next at bat in a baseball game or the next

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play or plays to be called in a football game on a real time basis, all star balloting, pitching changes, etc.). Using simple input devices, such as arrow keys and an enter key, a touch screen display or a numeric keypad, the fan selects from a list of promptings and/or possible answers. A fan that correctly predicts a predetermined number of outcomes may be awarded an electronic coupon that can be redeemed for concessions and/or other prizes. Alternatively, the prize could be delivered to the fan based on the location of the fan's interactive device by means of communication with the transceiver located therein.

One advantage of the invention is that promotional messages and advertisements receive a higher degree of attention from fans, because the fans are more interested in the interactive content than in passively viewing or listening to broadcast messages.

Another advantage of the invention is that it is possible to receive instantaneous and correlated feedback from a large number of fans, which is valuable information for, by way of example, sponsors, teams and leagues.

A further advantage of the invention is that fans value the expert commentary, freedom of movement and the interactivity afforded by the method, increasing their enjoyment and the perceived value of attending a live sporting event.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description of the preferred embodiments of the invention and the accompanying drawings, wherein like reference numeral denote similar elements throughout the several views and in which:

For the purpose of illustrating the invention, there is shown in the accompanying drawings a form which is presently preferred; it being understood that the invention is not intended to be limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of hand held device used in connection with the interactive audience participation system of the present invention; and

FIG. 2 is a schematic diagram of audience members at a spectator event utilizing the interactive audience participation system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings in detail wherein like reference numerals have been used throughout the various figures to designate like elements, there is shown in FIG. 1 a hand held, interactive device **10** adapted for use in connection with the interactive audience participation system of the present invention.

The device is preferably provided to audience members at a live spectator event as shown in FIG. 2. The device is adapted to provide information to the user. In a preferred embodiment the device **10** includes a housing **12** with an electronic display opening. The device **10** preferably includes a multiband radio incorporated therein with an audio receiving circuit and an audio output means (not shown). The audio output means is in electrical communication with the audio receiving circuit in a manner known in the art. The radio is

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adapted to receive AM, FM and/or VHF signals from a number of predetermined frequencies.

An earpiece **15** is included to allow the user to listen to the radio associated with the device without annoying neighboring fans. It is noted that other listening means could be employed such as earphones and the like.

An electronic display (visual display) **20** is preferably mounted within the housing and is visible through the electronic display opening therein. The electronic display is in electrical communication with a local microprocessor mounted within the housing. A transceiver in electrical communication with the local microprocessor allows for the transmission and receipt of data from a central processor (not shown) in a manner known in the art. The electronic display is adapted to display data received from the local microprocessor. For example, the visual display is adapted to display messages that ask the audience member to answer a question or provide an opinion. It is contemplated that data in the form of audio messages could be sent to the user in lieu of or in addition to the visual display.

The device **10** preferably presents promotional messages from sponsors and/or advertisers, essentially underwriting the cost of a user interface device. Such messages can be in the form of indicia **30** located (e.g., physically imprinted) on the device. Additionally, the messages can be visually displayed on the visual display **20** of the device or can be aurally communicated through the same. The messages can be in the form of pre-programmed visual messages or recordings or can be transmitted live during the spectator event via open band lines. The device is preferably provided to each audience member as part of the price of admission or, alternatively, as an optional item purchased by the audience member, and subsidized by the promotional messages.

In one embodiment, a large screen display **30**, as depicted in FIG. 2, remotely located from the fan (e.g., a JUMBOTRON™ display) is used for querying users of the interactive device. A user interface **50** on the device **10** allows an audience member to enter a response to queries. Examples of simple user interfaces are a keypad, selection buttons, touch screen, rotatable dial or voice recognition, but any other user interface could be incorporated within the invention. In an alternate embodiment, the user interface device is adapted to interact with other fans by allowing for the broadcasting of messages to all audience members or, alternatively, from one individual audience member to another. Many easy to use interfaces are known to one of ordinary skill in the art, and the invention is not limited to any particular user interface.

The responses of the audience members are sent to a central processor (not shown) that is adapted to tabulate the responses. Then, the processed information is stored and displayed to the audience member, either on the device **10** or a large screen display **40** remotely located from the fan. FIGS. 1 and 2. The processed information could be a compilation of the number of similar responses or as a percentage of total responses or graphically in a bar chart, pie chart or some other graphical, numerical or combined graphical and numerical representation of the data.

One representative embodiment of the present invention is a method of enhancing the enjoyment of spectators at live entertainment venues.

In the first step of the method, spectators are provided with an interactive device **10**, **10'** and **10''**. FIG. 2. The interactive device may be any device which permits broadcast of audio or video or both audio and video and provides the spectator with a user interface for sending replies to queries. The interactive device is adapted to present promotional messages either by

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placing the same on the device or by visually or aurally transmitting messages through the same.

Optionally, the device could be used to send messages to another fan, group of fans or all fans. This feature could be enabled in a manner similar to email by having a unique address programmed in each device. Optionally, the users could be queried to input a section and seat number. Inputting a seat number has the additional benefit of allowing delivery of awards, incentives and prizes directly to the spectator's seat. Another way to deliver prizes to spectators would be completely electronic. An award could be sent electronically to the unique address programmed in the interactive device, which could then be redeemed at either a central location or at one of the concession stands. This could be done without entering a seat number.

Another step involves broadcasting audible programming to spectators, using the interactive device. This is accomplished by incorporating an audio receiving circuit within the device which is adapted to receive RF and/or VHF signals at predetermined frequencies.

Querying of spectators, wherein answers may be entered by spectators using their interactive devices, is yet another step of the method.

Transmitting the answers from the spectators to a receiver or receivers is the next step in the method followed by receiving the answers, either at a central processing station or at distributed processing stations.

Storing the answers, at least temporarily, as spectator data, and processing the spectator data are additional steps in the method. This is followed by storing the results of the processing of the spectator data, at least temporarily.

Displaying the results of the processing of the spectator data is a step that generally follows the processing of the spectator data. This provides feedback to the spectators, showing them how their answers compared to other spectators. The steps of querying, transmitting, receiving, storing and displaying may all be accomplished via technology known in the art. Additionally, the steps of querying and transmitting are preferably achieved using wireless communications known in the art. The wireless communications are preferably selected from the group consisting of radio transmissions, microwave transmissions, broadband wireless data transmissions, and satellite transmissions.

The offering of prizes to a selected spectator or spectators who have responded to the querying, participated in the interactive games or answered correctly quiz questions may be utilized to enhance the enjoyment of spectators.

Another optional embodiment of the method allows for wireless transmitting of the answers and/or responses to the querying.

Ultra-wide band transmission is a promising technology for the broadcasting of messages and transmission of spectators' responses. It has the advantage of multiplexing over a single frequency.

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It is contemplated that the step of displaying the results may be achieved by using a stadium large screen display. Alternatively, the step of displaying the results may be achieved using a stadium monitor system or using a display incorporated in the interactive device or such information may be broadcast as audibly or both audibly and visibly.

The present invention may be embodied in other forms without departing from the spirit or essential attributes thereof and accordingly reference should be made to the claims rather than to the foregoing specification as indicating the scope thereof.

What is claimed is:

1. An interactive system enabling audience participation at a live event taking place in a venue; said interactive system being wireless and comprising:

at least one interactive device having an electronic display, said interactive device being appointed to be used by an audience member at said venue;

said interactive device further comprising means for allowing the audience members to enter feedback and other information into said interactive device;

said interactive device having the capability to transmit said feedback and information to a central processor;

said central processor adapted to receive said feedback and information from said interactive device;

said central processor being further adapted to transmit messages to said interactive device;

said interactive device having the capability to receive and display (on said electronic display) said messages from said central processor;

means for storing as audience data the feedback and information received by said central processor from said interactive device;

means for processing said audience data into results;

means for broadcasting the results to the audience members; and

means for disseminating at least one promotional message of a sponsor to the audience members through the electronic display;

wherein said user is capable of responding to a displayed message by entering feedback into said interactive device.

2. An interactive system, as recited in claim 1, wherein the venue is a parking lot.

3. An interactive system, as recited in claim 1, wherein the venue is a stadium.

4. An interactive system, as recited in claim 1, wherein the venue is a convention hall.

5. An interactive system, as recited in claim 1, wherein the venue is a restaurant.

6. An interactive system, as recited in claim 1, wherein the venue is a bar.

7. An interactive system, as recited in claim 1, wherein the venue is a house.

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